

OM protein - protein search, using sw model

Run on: December 12, 2003, 16:32:31 ; Search time 35.1205 Seconds
(without alignments)
497.144 Million cell updates/sec

Title: US-09-852-261-2
Perfect score: 598
Sequence: 1 GPETLCGAELVDALQFVCGD.....STNKNTKSQRRKGSTFEEHK 110

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 1107863 seqs, 158726573 residues

Total number of hits satisfying chosen parameters: 1107863

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : A_Geneseq_19Jun03:*

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- 2: /SIDS1/gcgdata/geneseq/geneseqp-embl/AA1981.DAT:*
- 3: /SIDS1/gcgdata/geneseq/geneseqp-embl/AA1982.DAT:*
- 4: /SIDS1/gcgdata/geneseq/geneseqp-embl/AA1983.DAT:*
- 5: /SIDS1/gcgdata/geneseq/geneseqp-embl/AA1984.DAT:*
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- 7: /SIDS1/gcgdata/geneseq/geneseqp-embl/AA1986.DAT:*
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- 9: /SIDS1/gcgdata/geneseq/geneseqp-embl/AA1988.DAT:*
- 10: /SIDS1/gcgdata/geneseq/geneseqp-embl/AA1989.DAT:*
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- 22: /SIDS1/gcgdata/geneseq/geneseqp-embl/AA2001.DAT:*
- 23: /SIDS1/gcgdata/geneseq/geneseqp-embl/AA2002.DAT:*
- 24: /SIDS1/gcgdata/geneseq/geneseqp-embl/AA2003.DAT:*

Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,

and is derived by analysis of the total score distribution.

SUMMARIES

Result	% Query					Description
	No.	Score	Match	Length	ID	
1	598	100.0	110	22	AAE02447	Human IGF-I isoform
2	598	100.0	110	23	AAU10559	Human mechano-grow
3	572.5	95.7	111	22	AAE02449	Rabbit IGF-I isofo
4	572.5	95.7	111	23	AAU10561	Rabbit mechano-gro
5	572.5	95.7	121	18	AAW23301	Rabbit insulin lik
6	560	93.6	195	8	AAP70277	Sequence of pre-pr
7	521.5	87.2	133	24	ABP58085	Mouse insulin-like
8	494.5	82.7	111	22	AAE02448	Rat IGF-I isoform
9	494.5	82.7	111	23	AAU10560	Rat mechano-growth
10	468	78.3	105	22	AAE02450	Human liver-type I
11	468	78.3	105	23	AAU10562	Human insulin-like
12	468	78.3	137	22	AAU09067	Human insulin-like
13	468	78.3	153	16	AAR83803	Insulin-like growt
14	468	78.3	153	19	AAW69733	Human IGF-1. Homo
15	468	78.3	153	19	AAW57882	Human IGF-I protei
16	468	78.3	153	23	AAU84284	Human endometrial
17	468	78.3	153	23	AAU84341	Protein IGF1 diffe
18	468	78.3	156	18	AAW23302	Human insulin like
19	465	77.8	105	22	AAE02452	Rabbit liver-type
20	465	77.8	105	23	AAU10564	Rabbit insulin-lik
21	461	77.1	119	7	AAP60578	Human prepro-somat
22	459	76.8	105	22	AAE02456	Rabbit liver-type
23	459	76.8	154	14	AAR40844	Goat Insulin like
24	457.5	76.5	191	19	AAW64068	Chimeric rhIGF-I-A
25	457.5	76.5	191	23	AAE24881	Yeast alpha factor
26	423	70.7	105	22	AAE02451	Rat liver-type IGF
27	423	70.7	105	22	AAE02531	Rat liver-type IGF
28	423	70.7	105	23	AAU10563	Rat insulin-like g
29	412	68.9	78	21	AAY98482	Pep 17 used in nuc
30	412	68.9	78	21	AAY59027	Peptide ligand Pep
31	412	68.9	78	22	AAU04272	Nuclear ligand Pep
32	412	68.9	78	22	AAB45835	Nucleic acid trans
33	398	66.6	176	17	AAR88089	Rainbow trout insu
34	386	64.5	953	19	AAW56011	Recombinant botuli
35	385	64.4	70	5	AAP40034	Sequence of human
36	385	64.4	70	8	AAP70414	Sequence of oxidat
37	385	64.4	70	8	AAP71539	Sequence of human
38	385	64.4	70	10	AAP91502	New insulin-like g
39	385	64.4	70	14	AAR36846	Insulin-like growt
40	385	64.4	70	14	AAR41774	hIGF-I. Homo sapi
41	385	64.4	70	14	AAR43606	Peptide derived fr
42	385	64.4	70	15	AAR48590	Human IGF-I peptid
43	385	64.4	70	15	AAR55275	Sequence of insuli
44	385	64.4	70	16	AAR75657	Human insulin-like
45	385	64.4	70	17	AAR86874	Insulin like growt

ALIGNMENTS

RESULT 1

AAE02447

ID AAE02447 standard; Protein; 110 AA.

XX

AC AAE02447;

XX

DT 10-AUG-2001 (first entry)

XX

DE Human IGF-I isoform mechano-growth factor (MGF) protein.

XX

KW Human; IGF-I isoform; Insulin-like Growth Factor-I; MGF;

KW mechano-growth factor; neurological disorder; neurodegenerative disorder;

KW amyotrophic lateral sclerosis; spinal muscular atrophy; muscular atrophy;

KW poliomyelitis; post-polio syndrome; toxin; motoneurone disorder;

KW nerve damage; autosomal muscular dystrophy; diabetic neuropathy;

KW sex-linked muscular dystrophy; peripheral neuropathy;

KW Alzheimer's disease; Parkinson's disease.

XX

OS Homo sapiens.

XX

PN WO200136483-A1.

XX

PD 25-MAY-2001.

XX

PF 15-NOV-2000; 2000WO-GB04354.

XX

PR 15-NOV-1999; 99GB-0026968.

XX

PA (UNLO) UNIV COLLEGE LONDON.

XX

PI Goldspink G, Johnson I;

XX

DR WPI; 2001-355620/37.

DR N-PSDB; AAD06398.

XX

PT Use of mechano-growth factor, an isoform of Insulin-like Growth

PT Factor-I, capable of reducing motoneurone loss, in the manufacture of a

PT medicament for the treatment of neurological disorder -

XX

PS Claim 4; Page 50-51; 66pp; English.

XX

CC The present invention relates to use of mechano-growth factor (MGF),

CC an Insulin-like Growth Factor-I (IGF-I) isoform in the manufacture of a

CC medicament for the treatment of neurological disorder. The MGF is capable

CC of reducing motoneurone loss by 20% or greater in response to nerve

CC avulsion, and effects motoneurone rescue, preferably adult motoneurone

CC rescue. The MGF polynucleotide and polypeptide are useful in the

CC manufacture of a medicament for the treatment of a neurological disorder,

CC including a disorder of motoneurons and/or neurodegenerative disorder,

CC e.g., amyotrophic lateral sclerosis, spinal muscular atrophy, progressive

CC spinal muscular atrophy, infantile or juvenile muscular atrophy,

CC poliomyelitis or post-polio syndrome, a disorder caused by exposure to a

CC toxin, motoneurone trauma, a motoneurone lesion or nerve damage, an

CC injury that affects motoneurons, motoneurone loss associated with aging,

CC autosomal or sex-linked muscular dystrophy, diabetic neuropathy,

CC peripheral neuropathies, Alzheimer's disease and Parkinson's disease.

CC The present sequence is human IGF-I isoform MGF. MGF is a muscle

CC isoform having extracellular (Ec) domain, hence also referred as
CC IGF-I-Ec. The MGF protein comprises amino acid sequences encoded by
CC nucleic acid sequence of IGF-I exons 4, 5 and 6 in the reading frame
CC of MGF.
XX
SQ Sequence 110 AA;

Query Match 100.0%; Score 598; DB 22; Length 110;
Best Local Similarity 100.0%; Pred. No. 3.3e-54;
Matches 110; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 60
|||||
Db 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy 61 CAPLKPAKSARSVRAQRHTDMPKTQKYQPPSTNKNTKSQRRKGSTFEEHK 110
|||||
Db 61 CAPLKPAKSARSVRAQRHTDMPKTQKYQPPSTNKNTKSQRRKGSTFEEHK 110

RESULT 2

AAU10559

ID AAU10559 standard; Protein; 110 AA.

XX

AC AAU10559;

XX

DT 25-FEB-2002 (first entry)

XX

DE Human mechano-growth factor (MGF) polypeptide.

XX

KW Human; mechano-growth factor; insulin-like growth factor I; IGF-I; MGF;
KW neuroprotective; nerve damage; peripheral nervous system; nerve severing;
KW muscle; neurological disorder; motoneuron loss; motorneuron disorder;
KW nerve avulsion.

XX

OS Homo sapiens.

XX

PN WO200185781-A2.

XX

PD 15-NOV-2001.

XX

PF 10-MAY-2001; 2001WO-GB02054.

XX

PR 10-MAY-2000; 2000GB-0011278.

XX

PA (UNLO) UNIV COLLEGE LONDON.

PA (EGRI-) EAST GRINSTEAD MEDICAL RES TRUST.

XX

PI Goldspink G, Terenghi G;

XX

DR WPI; 2002-055585/07.

DR N-PSDB; AAS16877.

XX

PT Use of insulin-like growth factor I (IGF-I) isoform known as
PT mechano-growth factor which is encoded by IGF-I exons 4,5,6 and has
PT ability to reduce motoneuron loss in response to nerve avulsion, to
PT treat nerve damage -

XX
 PS Claim 11; Fig 5; 65pp; English.
 XX
 CC The invention relates to the use of an insulin-like growth factor I
 CC (IGF-I) isoform, known as mechano-growth factor (MGF), in the manufacture
 CC of a medicament for treating nerve damage in the peripheral nervous
 CC system, or for treating nerve damage by localising MGF at the site of
 CC damage. The nerve damage may include severing of a nerve. The treatment
 CC may be combined with another treatment (such as a polypeptide growth
 CC factor other than MGF) that prevents or diminishes degeneration of the
 CC target organ (for example, muscle) which the damaged nerve innervates,
 CC whereby the treatment of the muscle with MGF or a polynucleotide encoding
 CC MGF prevents or diminishes degeneration. The method is useful for
 CC treating neurological disorders, preferably motoneuron disorders. These
 CC methods can reduce motoneuron loss by 20% or greater in response to nerve
 CC avulsion. This sequence represents the human MGF polypeptide.
 XX
 SQ Sequence 110 AA;

Query Match 100.0%; Score 598; DB 23; Length 110;
 Best Local Similarity 100.0%; Pred. No. 3.3e-54;
 Matches 110; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
 Db 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy 61 CAPLKPAKSARSVRAQRHTDMPKTQKYQPPSTNKNTKSQRRKGSTFEEHK 110
 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
 Db 61 CAPLKPAKSARSVRAQRHTDMPKTQKYQPPSTNKNTKSQRRKGSTFEEHK 110

RESULT 3

AAE02449

ID AAE02449 standard; Protein; 111 AA.

XX

AC AAE02449;

XX

DT 10-AUG-2001 (first entry)

XX

DE Rabbit IGF-I isoform mechano-growth factor (MGF) protein.

XX

KW Rabbit; IGF-I isoform; Insulin-like Growth Factor-I; MGF;

KW mechano-growth factor; neurological disorder; neurodegenerative disorder;

KW amyotrophic lateral sclerosis; spinal muscular atrophy; muscular atrophy;

KW poliomyelitis; post-polio syndrome; toxin; motoneurone disorder;

KW nerve damage; autosomal muscular dystrophy; diabetic neuropathy;

KW sex-linked muscular dystrophy; peripheral neuropathy;

KW Alzheimer's disease; Parkinson's disease.

XX

OS Oryctolagus cuniculus.

XX

PN WO200136483-A1.

XX

PD 25-MAY-2001.

XX

PF 15-NOV-2000; 2000WO-GB04354.

XX
 PR 15-NOV-1999; 99GB-0026968.
 XX
 PA (UNLO) UNIV COLLEGE LONDON.
 XX
 PI Goldspink G, Johnson I;
 XX
 DR WPI; 2001-355620/37.
 DR N-PSDB; AAD06400.
 XX
 PT Use of mechano-growth factor, an isoform of Insulin-like Growth
 PT Factor-I, capable of reducing motoneurone loss, in the manufacture of a
 PT medicament for the treatment of neurological disorder -
 XX
 PS Claim 4; Page 54; 66pp; English.
 XX
 CC The present invention relates to use of mechano-growth factor (MGF),
 CC an Insulin-like Growth Factor-I (IGF-I) isoform in the manufacture of a
 CC medicament for the treatment of neurological disorder. The MGF is capable
 CC of reducing motoneurone loss by 20% or greater in response to nerve
 CC avulsion, and effects motoneurone rescue, preferably adult motoneurone
 CC rescue. The MGF polynucleotide and polypeptide are useful in the
 CC manufacture of a medicament for the treatment of a neurological disorder,
 CC including a disorder of motoneurons and/or neurodegenerative disorder,
 CC e.g., amyotrophic lateral sclerosis, spinal muscular atrophy, progressive
 CC spinal muscular atrophy, infantile or juvenile muscular atrophy,
 CC poliomyelitis or post-polio syndrome, a disorder caused by exposure to a
 CC toxin, motoneurone trauma, a motoneurone lesion or nerve damage, an
 CC injury that affects motoneurons, motoneurone loss associated with aging,
 CC autosomal or sex-linked muscular dystrophy, diabetic neuropathy,
 CC peripheral neuropathies, Alzheimer's disease and Parkinson's disease.
 CC The present sequence is rabbit IGF-I isoform MGF. MGF is a muscle
 CC isoform having extracellular (Ec) domain, hence also referred as
 CC IGF-I-Ec. The MGF protein comprises amino acid sequences encoded by
 CC nucleic acid sequence of IGF-I exons 4, 5 and 6 in the reading frame
 CC of MGF.
 XX
 SQ Sequence 111 AA;

Query Match 95.7%; Score 572.5; DB 22; Length 111;
 Best Local Similarity 96.4%; Pred. No. 1.5e-51;
 Matches 107; Conservative 1; Mismatches 2; Indels 1; Gaps 1;

Qy 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 60
 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
 Db 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 60
 Qy 61 CAPLKPAKSARSVRAQRHTDMPKTQKYQPPSTNKNTKSQ-RRKGSTFEEHK 110
 |||||||:|||||||||||||||||||||| ||| |||||||||
 Db 61 CAPLKPAAARSVRAQRHTDMPKTQKYQPPSTNKKMKSQRRRKGSTFEEHK 111

RESULT 4
 AAU10561
 ID AAU10561 standard; Protein; 111 AA.
 XX
 AC AAU10561;

XX
 DT 25-FEB-2002 (first entry)
 XX
 DE Rabbit mechano-growth factor (MGF) polypeptide.
 XX
 KW Rabbit; mechano-growth factor; insulin-like growth factor I; IGF-I; MGF;
 KW neuroprotective; nerve damage; peripheral nervous system; nerve severing;
 KW muscle; neurological disorder; motoneuron loss; motorneuron disorder;
 KW nerve avulsion.
 XX
 OS Oryctolagus cuniculus.
 XX
 PN WO200185781-A2.
 XX
 PD 15-NOV-2001.
 XX
 PF 10-MAY-2001; 2001WO-GB02054.
 XX
 PR 10-MAY-2000; 2000GB-0011278.
 XX
 PA (UNLO) UNIV COLLEGE LONDON.
 PA (EGRI-) EAST GRINSTEAD MEDICAL RES TRUST.
 XX
 PI Goldspink G, Terenghi G;
 XX
 DR WPI; 2002-055585/07.
 DR N-PSDB; AAS16879.
 XX
 PT Use of insulin-like growth factor I (IGF-I) isoform known as
 PT mechano-growth factor which is encoded by IGF-I exons 4,5,6 and has
 PT ability to reduce motoneuron loss in response to nerve avulsion, to
 PT treat nerve damage -
 XX
 PS Claim 11; Fig 7; 65pp; English.
 XX
 CC The invention relates to the use of an insulin-like growth factor I
 CC (IGF-I) isoform, known as mechano-growth factor (MGF), in the manufacture
 CC of a medicament for treating nerve damage in the peripheral nervous
 CC system, or for treating nerve damage by localising MGF at the site of
 CC damage. The nerve damage may include severing of a nerve. The treatment
 CC may be combined with another treatment (such as a polypeptide growth
 CC factor other than MGF) that prevents or diminishes degeneration of the
 CC target organ (for example, muscle) which the damaged nerve innervates,
 CC whereby the treatment of the muscle with MGF or a polynucleotide encoding
 CC MGF prevents or diminishes degeneration. The method is useful for
 CC treating neurological disorders, preferably motorneuron disorders. These
 CC methods can reduce motoneuron loss by 20% or greater in response to nerve
 CC avulsion. This sequence represents the rabbit MGF polypeptide.
 XX
 SQ Sequence 111 AA;

Query Match 95.7%; Score 572.5; DB 23; Length 111;
 Best Local Similarity 96.4%; Pred. No. 1.5e-51;
 Matches 107; Conservative 1; Mismatches 2; Indels 1; Gaps 1;

Qy 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
 |||

Db 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSSRRAPQTGIVDECCFRSCDLRRLEMY 60

QY 61 CAPLKPAKSARSVRAQRHTDMPKTQKYQPPSTNKNTKSQ-RRKGSTFEEHK 110
 |||||:||||||| ||| |||||

Db 61 CAPLKPAKAARSVRAQRHTDMPKTQKYQPPSTNKKMKSQRRRKGSTFEEHK 111

RESULT 5

AAW23301

ID AAW23301 standard; Protein; 121 AA.

XX

AC AAW23301;

XX

DT 14-APR-1998 (first entry)

XX

DE Rabbit insulin like growth factor 1.

XX

KW Insulin like growth factor 1; IGF-1; Ec peptide; muscle disorder;
 KW heart; neuromuscular disease.

XX

OS Oryctolagus cuniculus.

XX

PN WO9733997-A1.

XX

PD 18-SEP-1997.

XX

PF 11-MAR-1997; 97WO-GB00658.

XX

PR 11-MAR-1996; 96GB-0005124.

XX

PA (UNLO) ROYAL FREE HOSPITAL SCHOOL MED.

XX

PI Goldspink G;

XX

DR WPI; 1997-470877/43.

DR N-PSDB; AAT84893.

XX

PT Use of insulin like growth factor I characterised by presence of Ec
 PT peptide - to treat humans or animals, particularly muscle disorders,
 PT heart conditions or neuromuscular diseases

XX

PS Disclosure; Fig 3; 33pp; English.

XX

CC A use of insulin like growth factor I (IGF-1) has been developed, and
 CC is characterised by the presence of the Ec peptide, or a functional
 CC equivalent, in the treatment or therapy of a human or animal. The IGF-1
 CC polypeptide can be used to treat muscular disorders, e.g. Duchenne or
 CC Becker muscular dystrophy, autosomal dystrophies and related progressive
 CC skeletal muscle weakness and wasting, muscle atrophy in ageing humans,
 CC spinal cord injury induced muscle atrophy and neuromuscular diseases,
 CC and cardiac disorders, e.g. diseases where promotion of cardiac muscle
 CC protein synthesis is a beneficial treatment, cardiomyopathies and acute
 CC heart failure or insult, specifically myocarditis or myocardial
 CC infarction. It can also be used to promote bone fracture healing and
 CC maintenance of bone in old age. The present sequence represents rabbit
 CC IGF-1 used in the present specification.

XX

SQ Sequence 121 AA;

Query Match 95.7%; Score 572.5; DB 18; Length 121;
Best Local Similarity 96.4%; Pred. No. 1.6e-51;
Matches 107; Conservative 1; Mismatches 2; Indels 1; Gaps 1;

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Qy      1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
        ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db      11 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 70

Qy     61 CAPLKPAKSARSVRAQRHTDMPKTQKYQPPSTNKNTKSQ-RRKGSTFEEHK 110
        |||||:|||||||||||||||||||||| || ||||||||||||
Db     71 CAPLKPAKAARSVRAQRHTDMPKTQKYQPPSTNKKMKSQRRRKSTFEEHK 121
```

RESULT 6

AAP70277

ID AAP70277 standard; protein; 195 AA.

XX

AC AAP70277;

XX

DT 25-MAR-2003 (updated)

DT 05-APR-1991 (first entry)

XX

DE Sequence of pre-pro-insulin-like growth factor 1B (ppIGF-1B).

XX

KW Growth promoter; lactation enhancer; cell proliferation.

XX

OS Homo sapiens.

XX

PN EP229750-A.

XX

PD 22-JUL-1987.

XX

PF 06-JAN-1987; 87EP-0870001.

XX

PR 20-NOV-1986; 86US-0929671.

PR 07-JAN-1986; 86US-0816662.

XX

PA (UNIW) UNIV WASHINGTON.

XX

PI Krivi GG, Rotwein PS;

XX

DR WPI; 1987-200203/29.

XX

PT New pre-pro-insulin-like growth factor-1 protein - obtd. by
PT recombinant DNA procedures for use as growth promoters for
PT enhancing lactation, for stimulating cell proliferation etc.

XX

PS Claim 11; Fig 6; 59pp; English.

XX

CC A 42 base oligonucleotide corresponding to the DNA sequence encoding
CC amino acids 10 to 23 of mature human IGF-I was synthesized (AAN70437).

CC The radiolabeled 42 mer was then employed to screen for IGF-I
CC containing DNA sequences in a human liver cDNA library. Insulin-
CC like growth factors-1A and -1B cDNAs were isolated from a human cDNA
CC library by using lambda gt 11 (AAN70435, AAN70436). The human IGF-1

XX
 CC The present sequence is the protein sequence of murine insulin-like
 CC growth factor 1B (IGF-IB). IGF-IB cDNA was used in an example of
 CC the method of the invention to generate probes for determination of
 CC IGF-IB RNA. The method comprises a quantitative hybridisation
 CC assay for analysis of mRNA in a target nucleic acid (TNA) sample.
 CC It involves: (i) immobilising the TNA sample on a solid support;
 CC (ii) contacting a labelled antisense probe to a first portion of the
 CC TNA, and a labelled sense probe to a second portion of the TNA;
 CC (iii) detecting and quantitating the signals generated from the
 CC hybridised probes; and (iv) determining the value represented by
 CC the antisense probe signal minus the sense probe signal, the value
 CC being proportional to the amount of mRNA in the TNA sample. In an
 CC example of the method, a cDNA clone containing 60 nucleotides from
 CC exon 2 and 179 nucleotides from exon 3 of the mouse IGF-IB gene was
 CC cloned into pGEN-4Z vector. Linearisation of the plasmid with
 CC EcoRI allowed transcription of a 250-nucleotide antisense probe
 CC using T7 polymerase. Linearisation with HindIII allowed
 CC transcription of a sense probe of similar length using SP6
 CC polymerase (see ABV76186). The probes were purified and used to
 CC determine IGF-I RNA in mouse hepatocytes and also in rat hepatocytes.

XX
 SQ Sequence 133 AA;

Query Match 87.2%; Score 521.5; DB 24; Length 133;
 Best Local Similarity 89.2%; Pred. No. 3.3e-46;
 Matches 99; Conservative 2; Mismatches 9; Indels 1; Gaps 1;

Qy 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 60
 |||||||||||||||| |||||||||||| ||||||||||||||||
 Db 23 GPETLCGAELVDALQFVCGPRGFYFNKPTGYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 82
 Qy 61 CAPLKPAKSARSVRAQRHTDMPKTQKYQPPSTNKNTKSQ-RRKGSTFEEHK 110
 ||||| |:|||:|||||||||| |||| || | |||||||||
 Db 83 CAPLKPTKAARSIRAQRHTDMPKTQKSPSLSTNKKTKLQRRRKGSTFEEHK 133

RESULT 8

AAE02448

ID AAE02448 standard; Protein; 111 AA.

XX

AC AAE02448;

XX

DT 10-AUG-2001 (first entry)

XX

DE Rat IGF-I isoform mechano-growth factor (MGF) protein.

XX

KW Rat; IGF-I isoform; Insulin-like Growth Factor-I; MGF;
 KW mechano-growth factor; neurological disorder; neurodegenerative disorder;
 KW amyotrophic lateral sclerosis; spinal muscular atrophy; muscular atrophy;
 KW poliomyelitis; post-polio syndrome; toxin; motoneurone disorder;
 KW nerve damage; autosomal muscular dystrophy; diabetic neuropathy;
 KW sex-linked muscular dystrophy; peripheral neuropathy;
 KW Alzheimer's disease; Parkinson's disease.

XX

OS Rattus sp.

XX

PN WO200136483-A1.
 XX
 PD 25-MAY-2001.
 XX
 PF 15-NOV-2000; 2000WO-GB04354.
 XX
 PR 15-NOV-1999; 99GB-0026968.
 XX
 PA (UNLO) UNIV COLLEGE LONDON.
 XX
 PI Goldspink G, Johnson I;
 XX
 DR WPI; 2001-355620/37.
 DR N-PSDB; AAD06399.
 XX
 PT Use of mechano-growth factor, an isoform of Insulin-like Growth
 PT Factor-I, capable of reducing motoneurone loss, in the manufacture of a
 PT medicament for the treatment of neurological disorder -
 XX
 PS Claim 4; Page 52; 66pp; English.
 XX
 CC The present invention relates to use of mechano-growth factor (MGF),
 CC an Insulin-like Growth Factor-I (IGF-I) isoform in the manufacture of a
 CC medicament for the treatment of neurological disorder. The MGF is capable
 CC of reducing motoneurone loss by 20% or greater in response to nerve
 CC avulsion, and effects motoneurone rescue, preferably adult motoneurone
 CC rescue. The MGF polynucleotide and polypeptide are useful in the
 CC manufacture of a medicament for the treatment of a neurological disorder,
 CC including a disorder of motoneurons and/or neurodegenerative disorder,
 CC e.g., amyotrophic lateral sclerosis, spinal muscular atrophy, progressive
 CC spinal muscular atrophy, infantile or juvenile muscular atrophy,
 CC poliomyelitis or post-polio syndrome, a disorder caused by exposure to a
 CC toxin, motoneurone trauma, a motoneurone lesion or nerve damage, an
 CC injury that affects motoneurons, motoneurone loss associated with aging,
 CC autosomal or sex-linked muscular dystrophy, diabetic neuropathy,
 CC peripheral neuropathies, Alzheimer's disease and Parkinson's disease.
 CC The present sequence is rat IGF-I isoform MGF. MGF is a muscle
 CC isoform having extracellular (Ec) domain, hence also referred as
 CC IGF-I-Ec. The MGF protein comprises amino acid sequences encoded by
 CC nucleic acid sequence of IGF-I exons 4, 5 and 6 in the reading frame
 CC of MGF.
 XX
 SQ Sequence 111 AA;

Query Match 82.7%; Score 494.5; DB 22; Length 111;
 Best Local Similarity 85.6%; Pred. No. 1.7e-43;
 Matches 95; Conservative 2; Mismatches 13; Indels 1; Gaps 1;

Qy 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
 ||||||||||||||||| ||||| ||||| |||||||||||||||||||||
 Db 1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60
 Qy 61 CAPLKPAKSARSVRAQRHTDMPKTQKYQPPSTNKNKTSQ-RRKGSTFEEHK 110
 | || |||||:||||||||||| || ||:| | | ||||| |||||
 Db 61 CVRCKPTKSARSIRAQRHTDMPKTQKSQPLSTHKKRKLQRRRKGSTLEEhk 111

RESULT 9

AAU10560

ID AAU10560 standard; Protein; 111 AA.

XX

AC AAU10560;

XX

DT 25-FEB-2002 (first entry)

XX

DE Rat mechano-growth factor (MGF) polypeptide.

XX

KW Rat; mechano-growth factor; insulin-like growth factor I; IGF-I; MGF;
 KW neuroprotective; nerve damage; peripheral nervous system; nerve severing;
 KW muscle; neurological disorder; motoneuron loss; motoneuron disorder;
 KW nerve avulsion.

XX

OS Rattus sp.

XX

PN WO200185781-A2.

XX

PD 15-NOV-2001.

XX

PF 10-MAY-2001; 2001WO-GB02054.

XX

PR 10-MAY-2000; 2000GB-0011278.

XX

PA (UNLO) UNIV COLLEGE LONDON.

PA (EGRI-) EAST GRINSTEAD MEDICAL RES TRUST.

XX

PI Goldspink G, Terenghi G;

XX

DR WPI; 2002-055585/07.

DR N-PSDB; AAS16878.

XX

PT Use of insulin-like growth factor I (IGF-I) isoform known as
 PT mechano-growth factor which is encoded by IGF-I exons 4,5,6 and has
 PT ability to reduce motoneuron loss in response to nerve avulsion, to
 PT treat nerve damage -

XX

PS Claim 11; Fig 6; 65pp; English.

XX

CC The invention relates to the use of an insulin-like growth factor I
 CC (IGF-I) isoform, known as mechano-growth factor (MGF), in the manufacture
 CC of a medicament for treating nerve damage in the peripheral nervous
 CC system, or for treating nerve damage by localising MGF at the site of
 CC damage. The nerve damage may include severing of a nerve. The treatment
 CC may be combined with another treatment (such as a polypeptide growth
 CC factor other than MGF) that prevents or diminishes degeneration of the
 CC target organ (for example, muscle) which the damaged nerve innervates,
 CC whereby the treatment of the muscle with MGF or a polynucleotide encoding
 CC MGF prevents or diminishes degeneration. The method is useful for
 CC treating neurological disorders, preferably motoneuron disorders. These
 CC methods can reduce motoneuron loss by 20% or greater in response to nerve
 CC avulsion. This sequence represents the rat MGF polypeptide.

XX

SQ Sequence 111 AA;

Query Match

82.7%; Score 494.5; DB 23; Length 111;

CC avulsion, and effects motoneurone rescue, preferably adult motoneurone
 CC rescue. The MGF polynucleotide and polypeptide are useful in the
 CC manufacture of a medicament for the treatment of a neurological disorder,
 CC including a disorder of motoneurons and/or neurodegenerative disorder,
 CC e.g., amyotrophic lateral sclerosis, spinal muscular atrophy, progressive
 CC spinal muscular atrophy, infantile or juvenile muscular atrophy,
 CC poliomyelitis or post-polio syndrome, a disorder caused by exposure to a
 CC toxin, motoneurone trauma, a motoneurone lesion or nerve damage, an
 CC injury that affects motoneurons, motoneurone loss associated with aging,
 CC autosomal or sex-linked muscular dystrophy, diabetic neuropathy,
 CC peripheral neuropathies, Alzheimer's disease and Parkinson's disease.
 CC The present sequence is human liver-type IGF-I isoform (L.IGF-I).
 CC The L.IGF-I protein comprises amino acid sequences encoded by
 CC nucleic acid sequence of IGF-I exons 4 and 6.

XX

SQ Sequence 105 AA;

Query Match 78.3%; Score 468; DB 22; Length 105;
 Best Local Similarity 100.0%; Pred. No. 8.8e-41;
 Matches 86; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy	1	GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY	60
Db	1	GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY	60
Qy	61	CAPLKPAKSARSVRAQRHTDMPKTQK	86
Db	61	CAPLKPAKSARSVRAQRHTDMPKTQK	86

RESULT 11

AAU10562

ID AAU10562 standard; Protein; 105 AA.

XX

AC AAU10562;

XX

DT 25-FEB-2002 (first entry)

XX

DE Human insulin-like growth factor I liver-type isoform (L.IGF-I).

XX

KW Human; mechano-growth factor; insulin-like growth factor I; IGF-I; MGF;
 KW neuroprotective; nerve damage; peripheral nervous system; nerve severing;
 KW muscle; neurological disorder; motoneuron loss; motoneuron disorder;
 KW nerve avulsion; insulin-like growth factor I liver-type isoform; L.IGF-I;

XX

OS Homo sapiens.

XX

PN WO200185781-A2.

XX

PD 15-NOV-2001.

XX

PF 10-MAY-2001; 2001WO-GB02054.

XX

PR 10-MAY-2000; 2000GB-0011278.

XX

PA (UNLO) UNIV COLLEGE LONDON.

PA (EGRI-) EAST GRINSTEAD MEDICAL RES TRUST.

XX
 PI Goldspink G, Terenghi G;
 XX
 DR WPI; 2002-055585/07.
 DR N-PSDB; AAS16882.
 XX
 PT Use of insulin-like growth factor I (IGF-I) isoform known as
 PT mechano-growth factor which is encoded by IGF-I exons 4,5,6 and has
 PT ability to reduce motoneuron loss in response to nerve avulsion, to
 PT treat nerve damage -
 XX
 PS Disclosure; Fig 8; 65pp; English.
 XX
 CC The invention relates to the use of an insulin-like growth factor I
 CC (IGF-I) isoform, known as mechano-growth factor (MGF), in the manufacture
 CC of a medicament for treating nerve damage in the peripheral nervous
 CC system, or for treating nerve damage by localising MGF at the site of
 CC damage. The nerve damage may include severing of a nerve. The treatment
 CC may be combined with another treatment (such as a polypeptide growth
 CC factor other than MGF) that prevents or diminishes degeneration of the
 CC target organ (for example, muscle) which the damaged nerve innervates,
 CC whereby the treatment of the muscle with MGF or a polynucleotide encoding
 CC MGF prevents or diminishes degeneration. The method is useful for
 CC treating neurological disorders, preferably motorneuron disorders. These
 CC methods can reduce motoneuron loss by 20% or greater in response to nerve
 CC avulsion. This sequence represents the human insulin-like growth factor I
 CC liver-type isoform (L.IGF-I) used in experiments on motoneuron loss.
 XX
 SQ Sequence 105 AA;

Query Match 78.3%; Score 468; DB 23; Length 105;
 Best Local Similarity 100.0%; Pred. No. 8.8e-41;
 Matches 86; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 60
 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
 Db 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 60

 Qy 61 CAPLKPAKSARSVRAQRHTDMPKTQK 86
 ||||||||||||||||
 Db 61 CAPLKPAKSARSVRAQRHTDMPKTQK 86

RESULT 12

AAU09067

ID AAU09067 standard; Protein; 137 AA.

XX

AC AAU09067;

XX

DT 19-DEC-2001 (first entry)

XX

DE Human insulin-like growth factor, IGF1.

XX

KW Human; long-term memory protein; LTM; insulin-like growth factor;
 KW neuroleptic; anticonvulsant; nootropic; neuroprotective; IGF1;
 KW cerebroprotective; drug discovery; therapeutic profiling;
 KW learning disability; memory impairment; brain injury; epilepsy;

KW mental retardation; senile dementia; Alzheimer's disease.
 XX
 OS Homo sapiens.
 XX
 PN WO200174298-A2.
 XX
 PD 11-OCT-2001.
 XX
 PF 02-APR-2001; 2001WO-US10661.
 XX
 PR 31-MAR-2000; 2000US-193614P.
 XX
 PA (UYBR-) UNIV BROWN RESEACH FOUND.
 PA (HUGH-) HUGHES HOWARD MED INST.
 XX
 PI Alberini CM, Bear MF;
 XX
 DR WPI; 2001-626335/72.
 DR N-PSDB; AAS14695.
 XX
 PT Regulating memory consolidation in an animal comprising treating with
 PT an agent that modulates activity of one or more genes from zif268,
 PT insulin-like growth factor, glutamate receptor 2, c/EBPbeta and VGF -
 XX
 PS Disclosure; Page 90-91; 100pp; English.
 XX
 CC The invention relates to modulating long term memory consolidation in an
 CC animal comprises treating with an agent that modulates the activity of
 CC one or more of genes from zif268, insulin-like growth factor (IGF),
 CC glutamate receptor 1 (GluR1), glutamate receptor 2 (GluR2), c/EBPbeta
 CC and neuroendocrine VGF (neurotrophin-inducible gene). The method is useful
 CC for identifying an agent which modulates memory consolidation. The method
 CC is useful for conducting a drug and/or target discovery business, which
 CC comprises conducting therapeutic profiling of the agents (or their
 CC analogues) identified, for efficacy and toxicity in animals, and
 CC formulating a pharmaceutical preparation including one or more agents
 CC identified as having an acceptable therapeutic profile and/or licensing
 CC to a third party the rights for further drug development of the
 CC identified agents. The method of conducting drug discovery business
 CC further comprises an additional step of establishing a distribution
 CC system for distributing the preparation for sale and may optionally
 CC include establishing a sales group for marketing the preparation. A
 CC pharmaceutical composition containing the agent is useful for enhancing
 CC memory consolidation in an animal, or for augmenting learning and memory,
 CC or otherwise for enhancing the functional performance of central nervous
 CC system neurons, where the agent is a cAMP elevating agent (agonist)
 CC preferably a cAMP analogue or cAMP phosphodiesterase inhibitor, which
 CC activates adenylate cyclase. The composition is useful for treating
 CC diseases associated with learning disabilities, memory impairment e.g.
 CC due to toxicant exposure, brain injury, epilepsy, mental retardation in
 CC children and senile dementia, including Alzheimer's disease. The
 CC present sequence represents human insulin-like growth factor, IGF1.
 XX
 SQ Sequence 137 AA;

Query Match 78.3%; Score 468; DB 22; Length 137;
 Best Local Similarity 100.0%; Pred. No. 1.2e-40;

Matches 86; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```
Qy      1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
          |||
Db      33 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 92

Qy      61 CAPLKPAKSARSVRAQRHTDMPKTQK 86
          |||
Db      93 CAPLKPAKSARSVRAQRHTDMPKTQK 118
```

RESULT 13

AAR83803

ID AAR83803 standard; protein; 153 AA.

XX

AC AAR83803;

XX

DT 15-FEB-1996 (first entry)

XX

DE Insulin-like growth factor 1.

XX

KW Insulin-like growth factor 1 receptor; IGF-1; synthetic peptide; cancer;
KW autophosphorylation; cellular growth; proliferation; restenosis; asthma;
KW burn; wound; brain metastasis.

XX

OS Homo sapiens.

XX

FH Key Location/Qualifiers

FT Peptide 49..118

FT /label= mature peptide

FT Domain 49..77

FT /label= B domain

FT Domain 78..89

FT /label= C domain

FT Domain 90..110

FT /label= A domain

FT Domain 111..118

FT /label= D domain

XX

PN WO9516703-A1.

XX

PD 22-JUN-1995.

XX

PF 15-DEC-1994; 94WO-US14576.

XX

PR 15-DEC-1993; 93US-0167653.

XX

PA (UYJE-) UNIV JEFFERSON THOMAS.

XX

PI Baserga R, Jameson BA;

XX

DR WPI; 1995-231515/30.

XX

PT New synthetic IGF-1 analogues comprising 5-25 amino acids - useful
PT in treatment of diseases associated with undesirable cell
PT proliferation

XX

PS Disclosure; Page 20-21; 28pp; English.

XX

CC The amino acid sequence of the insulin-like growth factor 1 pre-protein.
CC Processing of the protein results in a 70 amino acid mature protein. The
CC mature protein is split into 4 domains: the B domain has strong homology
CC to the B chain of insulin, the A domain similarly has homology to the A
CC chain of insulin. These domains are separated by a C domain and the
CC mature protein is terminated by a D domain at the C-terminus. The D
CC domain sequence was used to synthesis peptides (AAR83801-2) that
CC include amino acid residues 60-64 of the mature IGF-1 protein. IGF-1
CC binds to the IGF-1 receptor (IGF-1R) via the D domain and induces
CC activation of the IGF-1R by autophosphorylation of the IGF-1R.
CC Activated IGF-1R is associated with cellular growth and proliferation.
CC The synthetic peptides are useful as inhibitors of IGF-1 binding to
CC IGF-1R and thus may be used in the treatment of disorders characterised
CC by undesirable cell proliferation eg. cancer, restenosis, asthma, burns,
CC wounds or brain metastases.

XX

SQ Sequence 153 AA;

Query Match 78.3%; Score 468; DB 16; Length 153;
Best Local Similarity 100.0%; Pred. No. 1.3e-40;
Matches 86; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 60
|
Db 49 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 108

Qy 61 CAPLKPAKSARSVRAQRHTDMPKTQK 86
|
Db 109 CAPLKPAKSARSVRAQRHTDMPKTQK 134

RESULT 14

AAW69733

ID AAW69733 standard; Protein; 153 AA.

XX

AC AAW69733;

XX

DT 26-OCT-1998 (first entry)

XX

DE Human IGF-1.

XX

KW Human; IGF-1; insulin-like growth factor 1; urinary incontinence;
KW gene therapy; neurotrophic factor.

XX

OS Homo sapiens.

XX

PN W09833529-A1.

XX

PD 06-AUG-1998.

XX

PF 04-FEB-1998; 98WO-US02051.

XX

PR 04-FEB-1997; 97US-0036862.

XX

PA (GENE-) GENEMEDICINE INC.

XX
 PI Coleman M;
 XX
 DR WPI; 1998-437184/37.
 DR N-PSDB; AAV50425.
 XX
 PT Treatment of urinary incontinence - by delivering nucleic acid
 PT vector for expression of growth factor or neurotrophic factor in
 PT tissue(s)
 XX
 PS Claim 12d; Page 108-109; 117pp; English.
 XX
 CC A method has been developed of treating urinary incontinence (UI) in
 CC mammals. The method comprises delivering a nucleic acid vector for the
 CC expression of a growth factor or neurotrophic factor in a tissue or
 CC tissues. The present sequence represents human IGF-1 (insulin-like
 CC growth factor 1) which is used in the method of the invention. Due to
 CC the growth and stimulatory effects of growth factors and neurotrophic
 CC factors, introducing these factors to degenerated muscles in the
 CC urinary system can improve UI by enhancing both their integrity and
 CC neural innervation.
 XX
 SQ Sequence 153 AA;

Query Match 78.3%; Score 468; DB 19; Length 153;
 Best Local Similarity 100.0%; Pred. No. 1.3e-40;
 Matches 86; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 60
 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
 Db 49 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 108

 Qy 61 CAPLKPAKSARSVRAQRHTDMPKTQK 86
 ||||||||||||||||||||
 Db 109 CAPLKPAKSARSVRAQRHTDMPKTQK 134

RESULT 15

AAW57882

ID AAW57882 standard; Protein; 153 AA.

XX

AC AAW57882;

XX

DT 23-SEP-1998 (first entry)

XX

DE Human IGF-I protein.

XX

KW IGF-I; insulin-like growth factor I; skeletal alpha-actin gene promoter;
 KW muscle atrophy; diabetes; osteoporosis; growth disorder; therapy; AIDS;
 KW Chacot-marie-tooth disease; atherogenesis; haemophilia; neuropathy.

XX

OS Homo sapiens.

XX

PN WO9824922-A1.

XX

PD 11-JUN-1998.

XX

Search completed: December 12, 2003, 16:37:15
Job time : 36.1205 secs

GenCore version 5.1.6
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OM protein - protein search, using sw model

Run on: December 12, 2003, 16:35:22 ; Search time 14.247 Seconds
(without alignments)
326.679 Million cell updates/sec

Title: US-09-852-261-2
Perfect score: 598
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Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 328717 seqs, 42310858 residues

Total number of hits satisfying chosen parameters: 328717

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

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4: /cgn2_6/ptodata/1/iaa/6B_COMB.pep:*
5: /cgn2_6/ptodata/1/iaa/PCTUS_COMB.pep:*
6: /cgn2_6/ptodata/1/iaa/backfiles1.pep:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query		DB	ID	Description
		Match	Length			
1	572.5	95.7	121	3	US-09-142-583A-4	Sequence 4, Appli
2	468	78.3	137	1	US-07-953-230A-10	Sequence 10, Appl
3	468	78.3	152	3	US-08-950-720A-9	Sequence 9, Appli
4	468	78.3	153	1	US-08-219-878A-1	Sequence 1, Appli
5	468	78.3	153	5	PCT-US93-04329-1	Sequence 1, Appli
6	468	78.3	156	3	US-09-142-583A-11	Sequence 11, Appl
7	461	77.1	119	6	5405942-1	Patent No. 5405942
8	457.5	76.5	191	3	US-08-989-251-41	Sequence 41, Appl
9	457.5	76.5	191	3	US-09-340-250-41	Sequence 41, Appl
10	457.5	76.5	191	4	US-09-528-108-41	Sequence 41, Appl
11	412	68.9	78	2	US-08-460-890A-47	Sequence 47, Appl

12	412	68.9	78	3	US-08-167-641C-47	Sequence 47, Appl
13	412	68.9	78	3	US-08-460-971A-47	Sequence 47, Appl
14	412	68.9	78	3	US-08-462-040-47	Sequence 47, Appl
15	398	66.6	176	1	US-07-953-230A-9	Sequence 9, Appli
16	386	64.5	953	4	US-09-255-829-14	Sequence 14, Appl
17	385	64.4	70	1	US-07-947-035-1	Sequence 1, Appli
18	385	64.4	70	1	US-07-776-272-17	Sequence 17, Appl
19	385	64.4	70	1	US-07-958-903A-17	Sequence 17, Appl
20	385	64.4	70	1	US-08-462-018-17	Sequence 17, Appl
21	385	64.4	70	1	US-08-823-245-17	Sequence 17, Appl
22	385	64.4	70	1	US-08-482-271-1	Sequence 1, Appli
23	385	64.4	70	3	US-09-080-120A-1	Sequence 1, Appli
24	385	64.4	70	3	US-08-432-517-1	Sequence 1, Appli
25	385	64.4	70	4	US-07-963-329A-1	Sequence 1, Appli
26	385	64.4	70	4	US-09-477-924-1	Sequence 1, Appli
27	385	64.4	70	4	US-09-723-981-1	Sequence 1, Appli
28	385	64.4	70	4	US-09-723-896-1	Sequence 1, Appli
29	385	64.4	70	5	PCT-US92-09443A-1	Sequence 1, Appli
30	385	64.4	70	5	PCT-US93-11458-1	Sequence 1, Appli
31	385	64.4	70	5	PCT-US95-08925-1	Sequence 1, Appli
32	385	64.4	94	1	US-07-989-845-28	Sequence 28, Appl
33	385	64.4	94	1	US-07-989-844-12	Sequence 12, Appl
34	385	64.4	94	1	US-08-161-044-12	Sequence 12, Appl
35	385	64.4	94	1	US-08-240-121-12	Sequence 12, Appl
36	385	64.4	94	1	US-08-451-241-12	Sequence 12, Appl
37	385	64.4	94	5	PCT-US93-11297-12	Sequence 12, Appl
38	385	64.4	94	5	PCT-US93-11298-28	Sequence 28, Appl
39	385	64.4	118	3	US-09-029-267-14	Sequence 14, Appl
40	385	64.4	155	1	US-08-328-961-8	Sequence 8, Appli
41	385	64.4	155	1	US-08-462-397-8	Sequence 8, Appli
42	385	64.4	155	3	US-08-989-251-39	Sequence 39, Appl
43	385	64.4	155	3	US-09-340-250-39	Sequence 39, Appl
44	385	64.4	155	4	US-09-528-108-39	Sequence 39, Appl
45	382	63.9	70	1	US-08-180-572-5	Sequence 5, Appli

ALIGNMENTS

RESULT 1

US-09-142-583A-4

; Sequence 4, Application US/09142583A

; Patent No. 6221842

; GENERAL INFORMATION:

; APPLICANT: GOLDSPINK, GEOFFREY

; TITLE OF INVENTION: METHOD OF TREATING MUSCULAR DISORDERS

; NUMBER OF SEQUENCES: 11

; CORRESPONDENCE ADDRESS:

; ADDRESSEE: NIXON & VANDERHYE P.C.

; STREET: 1100 NORTH GLEBE ROAD

; CITY: ARLINGTON

; STATE: VA

; COUNTRY: USA

; ZIP: 22201

; COMPUTER READABLE FORM:

; MEDIUM TYPE: Floppy disk

; COMPUTER: IBM PC compatible


```

;      OPERATING SYSTEM: PC-DOS/MS-DOS
;      SOFTWARE: PatentIn Release #1.0, Version #1.25
;      CURRENT APPLICATION DATA:
;      APPLICATION NUMBER: US/09/142,583A
;      FILING DATE: 29-Oct-1998
;      CLASSIFICATION: <Unknown>
;      PRIOR APPLICATION DATA:
;      APPLICATION NUMBER: WO PCT/GB97/00658
;      FILING DATE: 11-MAR-1997
;      APPLICATION NUMBER: GB 9605124.8
;      FILING DATE: 11-MAR-1996
;      ATTORNEY/AGENT INFORMATION:
;      NAME: SADOFF, B. J.
;      REGISTRATION NUMBER: 36663
;      REFERENCE/DOCKET NUMBER: 117-263
;      TELECOMMUNICATION INFORMATION:
;      TELEPHONE: 7038164000
;      TELEFAX: 7038164100
;      INFORMATION FOR SEQ ID NO: 4:
;      SEQUENCE CHARACTERISTICS:
;      LENGTH: 121 amino acids
;      TYPE: amino acid
;      TOPOLOGY: linear
;      MOLECULE TYPE: protein
;      SEQUENCE DESCRIPTION: SEQ ID NO: 4:
US-09-142-583A-4

```

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Query Match          95.7%; Score 572.5; DB 3; Length 121;
Best Local Similarity 96.4%; Pred. No. 1.8e-60;
Matches 107; Conservative 1; Mismatches 2; Indels 1; Gaps 1;

```

```

Qy      1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 60
        |||
Db      11 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 70

Qy      61 CAPLKPAKSARSVRAQRHTDMPKTQKYQPPSTNKNKTSQ-RRKGSTFEEHK 110
        |||:|||||
Db      71 CAPLKPAKAARSVRAQRHTDMPKTQKYQPPSTNKKMKSQRRRKGSTFEEHK 121

```

RESULT 2

US-07-953-230A-10

```

; Sequence 10, Application US/07953230A
; Patent No. 5476779
; GENERAL INFORMATION:
;   APPLICANT: CHEN, Thomas T
;   APPLICANT: SHAMBLOTT, Michael J
;   TITLE OF INVENTION: INSULIN-LIKE GROWTH FACTORS ISOLATED
;   TITLE OF INVENTION: FROM RAINBOW TROUT
;   NUMBER OF SEQUENCES: 12
;   CORRESPONDENCE ADDRESS:
;   ADDRESSEE: Burns, Doane, Swecker & Mathis
;   STREET: George Mason Bldg., Washington & Prince Sts.
;   CITY: Alexandria
;   STATE: Virginia
;   COUNTRY: United States
;   ZIP: 22313-1404

```

```

; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/07/953,230A
; FILING DATE: 30-SEP-1992
; CLASSIFICATION: 435
; ATTORNEY/AGENT INFORMATION:
; NAME: Crane-Feury, Sharon E
; REGISTRATION NUMBER: 36,113
; REFERENCE/DOCKET NUMBER: 028755-010
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (703) 836-6620
; TELEFAX: (703) 836-2021
; INFORMATION FOR SEQ ID NO: 10:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 137 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; FEATURE:
; NAME/KEY: Peptide
; LOCATION: 7
; OTHER INFORMATION: /note= "Gap of 2 after 7."
; FEATURE:
; NAME/KEY: Peptide
; LOCATION: 31
; OTHER INFORMATION: /note= "Gap of 1 after 31."
; FEATURE:
; NAME/KEY: Peptide
; LOCATION: 116
; OTHER INFORMATION: /note= "Gap of 27 after 116."
US-07-953-230A-10

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Query Match          78.3%; Score 468; DB 1; Length 137;
Best Local Similarity 100.0%; Pred. No. 5.2e-48;
Matches 86; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Qy      1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 60
        ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db      33 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 92

Qy      61 CAPLKPAKSARSVRAQRHTDMPKTQK 86
        ||||||||||||||||||||||||
Db      93 CAPLKPAKSARSVRAQRHTDMPKTQK 118

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```

RESULT 3
US-08-950-720A-9
; Sequence 9, Application US/08950720A
; Patent No. 6046028
; GENERAL INFORMATION:
; APPLICANT: Conklin, Darrell C.
; APPLICANT: Lofton-Day, Catherine E.

```

```

; APPLICANT: Lok, Si
; APPLICANT: Jaspers, Stephen R.
; TITLE OF INVENTION: INSULIN HOMOLOG
; NUMBER OF SEQUENCES: 17
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: ZymoGenetics, Inc.
; STREET: 1201 Eastlake Avenue East
; CITY: Seattle
; STATE: WA
; COUNTRY: USA
; ZIP: 98102
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Diskette
; COMPUTER: IBM Compatible
; OPERATING SYSTEM: DOS
; SOFTWARE: FastSEQ for Windows Version 2.0
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/950,720A
; FILING DATE:
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER:
; FILING DATE:
; ATTORNEY/AGENT INFORMATION:
; NAME: Sawislak, Deborah A
; REGISTRATION NUMBER: 37,438
; REFERENCE/DOCKET NUMBER: 96-09
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 206-442-6672
; TELEFAX: 206-442-6678
; TELEX:
; INFORMATION FOR SEQ ID NO: 9:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 152 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: No. 6046028e
US-08-950-720A-9

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Query Match          78.3%; Score 468; DB 3; Length 152;
Best Local Similarity 100.0%; Pred. No. 5.9e-48;
Matches 86; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Qy      1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 60
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Db      23 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 82

Qy      61 CAPLKPAKSARSVRAQRHTDMPKTQK 86
        ||||||||||||||||||||
Db      83 CAPLKPAKSARSVRAQRHTDMPKTQK 108

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RESULT 4
US-08-219-878A-1
; Sequence 1, Application US/08219878A
; Patent No. 5473054

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; GENERAL INFORMATION:
; APPLICANT: Bradford A. Jameson and Renato Baserga
; TITLE OF INVENTION: IGF-1 Analogs
; NUMBER OF SEQUENCES: 5
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Woodcock Washburn
; ADDRESSEE: Kurtz Mackiewicz & No. 5473054ris
; STREET: One Liberty Place - 46th Floor
; CITY: Philadelphia
; STATE: PA
; COUNTRY: USA
; ZIP: 19103
; COMPUTER READABLE FORM:
; MEDIUM TYPE: DISKETTE, 3.5 INCH, 1.44 Mb STORAGE
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: WORDPERFECT 5.1
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/219,878A
; FILING DATE: 30-MAR-1994
; CLASSIFICATION: 514
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US/07/881,524
; FILING DATE: 08-MAY-1992
; ATTORNEY/AGENT INFORMATION:
; NAME: Mark DeLuca
; REGISTRATION NUMBER: 33,229
; REFERENCE/DOCKET NUMBER: TJU-1240
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (215) 568-3100
; TELEFAX: (215) 568-3439
; INFORMATION FOR SEQ ID NO: 1:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 153
; TYPE: amino acid
; TOPOLOGY: linear
US-08-219-878A-1

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Query Match          78.3%; Score 468; DB 1; Length 153;
Best Local Similarity 100.0%; Pred. No. 5.9e-48;
Matches 86; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Qy      1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 60
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db      49 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 108

Qy      61 CAPLKPAKSARSVRAQRHTDMPKTQK 86
          ||||||||||||||||||||
Db      109 CAPLKPAKSARSVRAQRHTDMPKTQK 134

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RESULT 5
PCT-US93-04329-1
; Sequence 1, Application PC/TUS9304329
; GENERAL INFORMATION:
; APPLICANT: Bradford A. Jameson and Renato Baserga
; TITLE OF INVENTION: IGF-1 Analogs

```

```

; NUMBER OF SEQUENCES: 7
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Woodcock Washburn
; ADDRESSEE: Kurtz Mackiewicz & Norris
; STREET: One Liberty Place - 46th Floor
; CITY: Philadelphia
; STATE: PA
; COUNTRY: USA
; ZIP: 19103
; COMPUTER READABLE FORM:
; MEDIUM TYPE: DISKETTE, 3.5 INCH, 1.44 Mb STORAGE
; COMPUTER: IBM PS/2
; OPERATING SYSTEM: PC-DOS
; SOFTWARE: WORDPERFECT 5.0
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: PCT/US93/04329
; FILING DATE: 19930507
; CLASSIFICATION:
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 07/881,524
; FILING DATE: 08-MAY-92,
; ATTORNEY/AGENT INFORMATION:
; NAME: Mark DeLuca
; REGISTRATION NUMBER: 33,229
; REFERENCE/DOCKET NUMBER: TJU-0649
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (215) 568-3100
; TELEFAX: (215) 568-3439
; INFORMATION FOR SEQ ID NO: 1:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 153
; TYPE: AMINO ACID
; TOPOLOGY: linear
PCT-US93-04329-1

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Query Match          78.3%; Score 468; DB 5; Length 153;
Best Local Similarity 100.0%; Pred. No. 5.9e-48;
Matches 86; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Qy      1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 60
        ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db      49 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 108

Qy      61 CAPLKPAKSARSVRAQRHTDMPKTQK 86
        ||||||||||||||||||||||||||||
Db      109 CAPLKPAKSARSVRAQRHTDMPKTQK 134

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```

RESULT 6
US-09-142-583A-11
; Sequence 11, Application US/09142583A
; Patent No. 6221842
; GENERAL INFORMATION:
; APPLICANT: GOLDSPINK, GEOFFREY
; TITLE OF INVENTION: METHOD OF TREATING MUSCULAR DISORDERS
; NUMBER OF SEQUENCES: 11
; CORRESPONDENCE ADDRESS:

```

```

;      ADDRESSEE: NIXON & VANDERHYE P.C.
;      STREET: 1100 NORTH GLEBE ROAD
;      CITY: ARLINGTON
;      STATE: VA
;      COUNTRY: USA
;      ZIP: 22201
;      COMPUTER READABLE FORM:
;      MEDIUM TYPE: Floppy disk
;      COMPUTER: IBM PC compatible
;      OPERATING SYSTEM: PC-DOS/MS-DOS
;      SOFTWARE: PatentIn Release #1.0, Version #1.25
;      CURRENT APPLICATION DATA:
;      APPLICATION NUMBER: US/09/142,583A
;      FILING DATE: 29-Oct-1998
;      CLASSIFICATION: <Unknown>
;      PRIOR APPLICATION DATA:
;      APPLICATION NUMBER: WO PCT/GB97/00658
;      FILING DATE: 11-MAR-1997
;      APPLICATION NUMBER: GB 9605124.8
;      FILING DATE: 11-MAR-1996
;      ATTORNEY/AGENT INFORMATION:
;      NAME: SADOFF, B. J.
;      REGISTRATION NUMBER: 36663
;      REFERENCE/DOCKET NUMBER: 117-263
;      TELECOMMUNICATION INFORMATION:
;      TELEPHONE: 7038164000
;      TELEFAX: 7038164100
;      INFORMATION FOR SEQ ID NO: 11:
;      SEQUENCE CHARACTERISTICS:
;      LENGTH: 156 amino acids
;      TYPE: amino acid
;      TOPOLOGY: linear
;      MOLECULE TYPE: protein
;      SEQUENCE DESCRIPTION: SEQ ID NO: 11:
US-09-142-583A-11

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Query Match          78.3%; Score 468; DB 3; Length 156;
Best Local Similarity 100.0%; Pred. No. 6.1e-48;
Matches 86; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Qy      1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRAPQTGIVDECCFRSCDLRRLEMY 60
        ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db      52 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRAPQTGIVDECCFRSCDLRRLEMY 111

Qy      61 CAPLKPAKSARSVRAQRHTDMPKTQK 86
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Db      112 CAPLKPAKSARSVRAQRHTDMPKTQK 137

```

```

RESULT 7
5405942-1
;Patent No. 5405942
;  APPLICANT: BELL, GRAEME I.;RALL, LESLIE B.;MERRYWEATHER,
;JAMES P.
;  TITLE OF INVENTION: PREPRO INSULIN-LIKE GROWTH FACTORS
;I AND II
;  NUMBER OF SEQUENCES: 16

```

```

; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/07/65,673
; FILING DATE: 16-JUN-1987
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 630,557
; FILING DATE: 19-JUL-1984
;SEQ ID NO:1:
; LENGTH: 119
5405942-1

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Query Match          77.1%; Score 461; DB 6; Length 119;
Best Local Similarity 98.8%; Pred. No. 3e-47;
Matches 85; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

```

```

Qy      1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
          |||||||||||||||||||||||||||||||||||||||||||||||||||||
Db      15 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDHRRLEMY 74

Qy      61 CAPLKPAKSARSVRAQRHTDMPKTQK 86
          ||||||||||||||||||||
Db      75 CAPLKPAKSARSVRAQRHTDMPKTQK 100

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RESULT 8

US-08-989-251-41

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; Sequence 41, Application US/08989251
; Patent No. 6017731
; GENERAL INFORMATION:
; APPLICANT: Tekamp-Olson, Patricia
; TITLE OF INVENTION: METHOD FOR EXPRESSION OF HETEROLOGOUS
; TITLE OF INVENTION: PROTEINS IN YEAST
; NUMBER OF SEQUENCES: 41
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Bell Seltzer IP Group of Alston & Bird, LLP
; STREET: 3605 Glenwood Ave. Suite 310
; CITY: Raleigh
; STATE: NC
; COUNTRY: US
; ZIP: 27622
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/989,251
; FILING DATE:
; CLASSIFICATION:
; ATTORNEY/AGENT INFORMATION:
; NAME: Spruill, W. Murray
; REGISTRATION NUMBER: 32,943
; REFERENCE/DOCKET NUMBER: 5784-4
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 919 420 2202
; TELEFAX: 919 881 3175
; INFORMATION FOR SEQ ID NO: 41:
; SEQUENCE CHARACTERISTICS:

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; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-09-528-108-41

Query Match 76.5%; Score 457.5; DB 4; Length 191;
Best Local Similarity 98.9%; Pred. No. 1.4e-46;
Matches 86; Conservative 0; Mismatches 0; Indels 1; Gaps 1;

Qy 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
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Db 86 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 145

Qy 61 CAPLKPAKSA-RSVRAQRHTDMPKTQK 86
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Db 146 CAPLKPAKSAKRSVRAQRHTDMPKTQK 172

RESULT 11

US-08-460-890A-47

; Sequence 47, Application US/08460890A
; Patent No. 5994109

; GENERAL INFORMATION:

; APPLICANT: Woo, Savio L.C.
; APPLICANT: Smith, Louis C.
; APPLICANT: Cristiano, Richard J.
; APPLICANT: Gottchalk, Stephen
; TITLE OF INVENTION: NUCLEIC ACID TRANSPORTER SYSTEMS AND
; TITLE OF INVENTION: METHODS OF USE
; NUMBER OF SEQUENCES: 65
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Lyon & Lyon
; STREET: 633 West Fifth Street
; STREET: Suite 4700
; CITY: Los Angeles
; STATE: California
; COUNTRY: U.S.A.
; ZIP: 90071-2066

; COMPUTER READABLE FORM:
; MEDIUM TYPE: 3.5" Diskette, 1.44 Mb
; MEDIUM TYPE: storage
; COMPUTER: IBM Compatible
; OPERATING SYSTEM: IBM P.C. DOS 5.0
; SOFTWARE: FastSEQ for Windows 2.0

; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/460,890A
; FILING DATE: June 5, 1995
; CLASSIFICATION: 435

; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/167,641
; FILING DATE: December 14, 1993
; APPLICATION NUMBER: 07/855,389
; FILING DATE: March 20, 1992
; APPLICATION NUMBER: PCT/US93/02725
; FILING DATE: March 19, 1993

; ATTORNEY/AGENT INFORMATION:
; NAME: Warburg, Richard J.
; REGISTRATION NUMBER: 32,327

```
; REFERENCE/DOCKET NUMBER: 212/066
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (213) 489-1600
; TELEFAX: (213) 955-0440
; TELEX: 67-3510
; INFORMATION FOR SEQ ID NO: 47:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 78 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
US-08-460-890A-47
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Query Match          68.9%; Score 412; DB 2; Length 78;
Best Local Similarity 97.4%; Pred. No. 1.1e-41;
Matches 75; Conservative 2; Mismatches 0; Indels 0; Gaps 0;
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Qy      4 TLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRAPQTGIVDECCFRSCDLRRLEMYCAP 63
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db      2 TLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRAPQTGIVDECCFRSCDLRRLEMYCAP 61

Qy      64 LKPAKSARSVRAQRHTD 80
          |:|:||||||||||
Db      62 LRPARSARSVRAQRHTD 78
```

RESULT 12

US-08-167-641C-47

```
; Sequence 47, Application US/08167641C
; Patent No. 6033884
; GENERAL INFORMATION:
; APPLICANT: Woo, Savio L.C.
; APPLICANT: Smith, Louis C.
; APPLICANT: Cristiano, Richard J.
; APPLICANT: Gottchalk, Stephen
; TITLE OF INVENTION: NUCLEIC ACID TRANSPORTER SYSTEMS AND
; TITLE OF INVENTION: METHODS OF USE
; NUMBER OF SEQUENCES: 65
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Lyon & Lyon
; STREET: 633 West Fifth Street
; STREET: Suite 4700
; CITY: Los Angeles
; STATE: California
; COUNTRY: U.S.A.
; ZIP: 90071-2066
; COMPUTER READABLE FORM:
; MEDIUM TYPE: 3.5" Diskette, 1.44 Mb
; MEDIUM TYPE: storage
; COMPUTER: IBM Compatible
; OPERATING SYSTEM: IBM P.C. DOS 5.0
; SOFTWARE: FastSEQ for Windows 2.0
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/167,641C
; FILING DATE: December 14, 1993
; CLASSIFICATION: .435
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```

; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 07/855,389
; FILING DATE: March 20, 1992
; APPLICATION NUMBER: PCT/US93/02725
; FILING DATE: March 19, 1993
; ATTORNEY/AGENT INFORMATION:
; NAME: Warburg, Richard J.
; REGISTRATION NUMBER: 32,327
; REFERENCE/DOCKET NUMBER: 205/012
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (213) 489-1600
; TELEFAX: (213) 955-0440
; TELEX: 67-3510
; INFORMATION FOR SEQ ID NO: 47:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 78 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
US-08-167-641C-47

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```

Query Match          68.9%; Score 412; DB 3; Length 78;
Best Local Similarity 97.4%; Pred. No. 1.1e-41;
Matches 75; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

```

```

Qy      4 TLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMYCAP 63
        |||
Db      2 TLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMYCAP 61
        |||
Qy      64 LKPAKSARSVRAQRHTD 80
        |:|:|
Db      62 LRPARSARSVRAQRHTD 78

```

RESULT 13

US-08-460-971A-47

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; Sequence 47, Application US/08460971A
; Patent No. 6150168
; GENERAL INFORMATION:
; APPLICANT: Woo, Savio L.C.
; APPLICANT: Smith, Louis C.
; APPLICANT: Cristiano, Richard J.
; APPLICANT: Gottchalk, Stephen
; TITLE OF INVENTION: NUCLEIC ACID TRANSPORTER SYSTEMS AND
; TITLE OF INVENTION: METHODS OF USE
; NUMBER OF SEQUENCES: 65
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Lyon & Lyon
; STREET: 633 West Fifth Street
; STREET: Suite 4700
; CITY: Los Angeles
; STATE: California
; COUNTRY: U.S.A.
; ZIP: 90071-2066
; COMPUTER READABLE FORM:
; MEDIUM TYPE: 3.5" Diskette, 1.44 Mb

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; MEDIUM TYPE: storage
; COMPUTER: IBM Compatible
; OPERATING SYSTEM: IBM P.C. DOS 5.0
; SOFTWARE: FastSEQ for Windows 2.0
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/460,971A
; FILING DATE: June 5, 1995
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/167,641
; FILING DATE: December 14, 1993
; APPLICATION NUMBER: 07/855,389
; FILING DATE: March 20, 1992
; APPLICATION NUMBER: PCT/US93/02725
; FILING DATE: March 19, 1993
; ATTORNEY/AGENT INFORMATION:
; NAME: Warburg, Richard J.
; REGISTRATION NUMBER: 32,327
; REFERENCE/DOCKET NUMBER: 212/063
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (213) 489-1600
; TELEFAX: (213) 955-0440
; TELEX: 67-3510
; INFORMATION FOR SEQ ID NO: 47:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 78 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
US-08-460-971A-47

```

```

Query Match          68.9%; Score 412; DB 3; Length 78;
Best Local Similarity 97.4%; Pred. No. 1.1e-41;
Matches 75; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

```

```

Qy      4 TLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMYCAP 63
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db      2 TLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMYCAP 61

Qy      64 LKPAKSARSVRAQRHTD 80
          |:|:||||||||||
Db      62 LRPARSARSVRAQRHTD 78

```

RESULT 14

US-08-462-040-47

```

; Sequence 47, Application US/08462040
; Patent No. 6177554
; GENERAL INFORMATION:
; APPLICANT: Woo, Savio L.C.
; APPLICANT: Smith, Louis C.
; APPLICANT: Cristiano, Richard J.
; APPLICANT: Gottchalk, Stephen
; TITLE OF INVENTION: NUCLEIC ACID TRANSPORTER SYSTEMS AND
; TITLE OF INVENTION: METHODS OF USE
; NUMBER OF SEQUENCES: 65

```

```

;   CORRESPONDENCE ADDRESS:
;   ADDRESSEE:  Lyon & Lyon
;   STREET:  633 West Fifth Street
;   STREET:  Suite 4700
;   CITY:  Los Angeles
;   STATE:  California
;   COUNTRY:  U.S.A.
;   ZIP:  90071-2066
;   COMPUTER READABLE FORM:
;   MEDIUM TYPE:  3.5" Diskette, 1.44 Mb
;   MEDIUM TYPE:  storage
;   COMPUTER:  IBM Compatible
;   OPERATING SYSTEM:  IBM P.C. DOS 5.0
;   SOFTWARE:  FastSEQ for Windows 2.0
;   CURRENT APPLICATION DATA:
;   APPLICATION NUMBER:  US/08/462,040
;   FILING DATE:  June 5, 1995
;   CLASSIFICATION:  536
;   PRIOR APPLICATION DATA:
;   APPLICATION NUMBER:  08/167,641
;   FILING DATE:  December 14, 1993
;   APPLICATION NUMBER:  07/855,389
;   FILING DATE:  March 20, 1992
;   APPLICATION NUMBER:  PCT/US93/02725
;   FILING DATE:  March 19, 1993
;   ATTORNEY/AGENT INFORMATION:
;   NAME:  Warburg, Richard J.
;   REGISTRATION NUMBER:  32,327
;   REFERENCE/DOCKET NUMBER:  212/078
;   TELECOMMUNICATION INFORMATION:
;   TELEPHONE:  (213) 489-1600
;   TELEFAX:  (213) 955-0440
;   TELEX:  67-3510
;   INFORMATION FOR SEQ ID NO:  47:
;   SEQUENCE CHARACTERISTICS:
;   LENGTH:  78 amino acids
;   TYPE:  amino acid
;   STRANDEDNESS:  single
;   TOPOLOGY:  linear
;   MOLECULE TYPE:  peptide
US-08-462-040-47

```

```

Query Match          68.9%;  Score 412;  DB 3;  Length 78;
Best Local Similarity 97.4%;  Pred. No. 1.1e-41;
Matches 75;  Conservative 2;  Mismatches 0;  Indels 0;  Gaps 0;

```

```

Qy      4  TLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMYCAP 63
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db      2  TLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMYCAP 61

Qy      64  LKPAKSARSVRAQRHTD 80
          |:|:|||||||||
Db      62  LRPARSARSVRAQRHTD 78

```

```

RESULT 15
US-07-953-230A-9

```

```

; Sequence 9, Application US/07953230A
; Patent No. 5476779
; GENERAL INFORMATION:
; APPLICANT: CHEN, Thomas T
; APPLICANT: SHAMBLOTT, Michael J
; TITLE OF INVENTION: INSULIN-LIKE GROWTH FACTORS ISOLATED
; TITLE OF INVENTION: FROM RAINBOW TROUT
; NUMBER OF SEQUENCES: 12
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Burns, Doane, Swecker & Mathis
; STREET: George Mason Bldg., Washington & Prince Sts.
; CITY: Alexandria
; STATE: Virginia
; COUNTRY: United States
; ZIP: 22313-1404
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/07/953,230A
; FILING DATE: 30-SEP-1992
; CLASSIFICATION: 435
; ATTORNEY/AGENT INFORMATION:
; NAME: Crane-Feury, Sharon E
; REGISTRATION NUMBER: 36,113
; REFERENCE/DOCKET NUMBER: 028755-010
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (703) 836-6620
; TELEFAX: (703) 836-2021
; INFORMATION FOR SEQ ID NO: 9:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 176 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-07-953-230A-9

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Query Match          66.6%; Score 398; DB 1; Length 176;
Best Local Similarity 62.8%; Pred. No. 1.4e-39;
Matches 76; Conservative 10; Mismatches 19; Indels 16; Gaps 1;

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Qy      1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 60
        |||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
Db      45 GPETLCGAELVDTLQFVCGERGFYFSKPTGYGPSSRRSHNRGIVDECCFQSCELRRLEMY 104

Qy      61 CAPLKPAKSARSVRAQRHTDMPKTQKY-----QPPSTNKNTKSQRRKGS 104
        |||:| |:|||||:|||||:| | | | | | | | | | | | | | | |
Db      105 CAPVKSGKAARSVRAQRHTDMPRTPKVSTAVQSVDRGTERRTAQHPDKTKPKKEVHQKNS 164

Qy      105 T 105
        :
Db      165 S 165
Search completed: December 12, 2003, 16:41:14
Job time : 16.247 secs

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GenCore version 5.1.6
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OM protein - protein search, using sw model

Run on: December 12, 2003, 16:34:56 ; Search time 11.5964 Seconds
 (without alignments)
 912.229 Million cell updates/sec

Title: US-09-852-261-2
 Perfect score: 598
 Sequence: 1 GPETLCGAELVDALQFVCGD.....STNKNTKSQRRKGSTFEEHK 110

Scoring table: BLOSUM62
 Gapop 10.0 , Gapext 0.5

Searched: 283308 seqs, 96168682 residues

Total number of hits satisfying chosen parameters: 283308

Minimum DB seq length: 0
 Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
 Maximum Match 100%
 Listing first 45 summaries

Database : PIR 76:*
 1: pir1:*
 2: pir2:*
 3: pir3:*
 4: pir4:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	%		DB	ID	Description
		Query Match	Length			
1	560	93.6	195	1	IGHU1B	insulin-like growt
2	521.5	87.2	159	2	A26859	insulin-like growt
3	503.5	84.2	133	2	A40912	insulin-like growt
4	494	82.6	181	2	A27804	insulin-like growt
5	468	78.3	137	1	IGGP1	insulin-like growt
6	468	78.3	137	2	A36552	insulin-like growt
7	468	78.3	153	1	IGHU1	insulin-like growt
8	464.5	77.7	153	2	S12825	insulin-like growt
9	463	77.4	122	2	PN0622	insulin-like growt
10	463	77.4	153	1	IGBO1	insulin-like growt
11	459	76.8	154	2	JC2483	insulin-like growt
12	455	76.1	138	2	S22878	insulin-like growt
13	455	76.1	154	2	A33390	insulin-like growt

14	450	75.3	153	2	B27804	insulin-like growt
15	447	74.7	127	2	A25540	insulin-like growt
16	432	72.2	127	2	B40912	insulin-like growt
17	422	70.6	153	2	A41399	insulin-like growt
18	419.5	70.2	153	2	A36079	insulin-like growt
19	403.5	67.5	161	2	C54270	insulin-like growt
20	401	67.1	155	2	C44012	insulin-like growt
21	401	67.1	176	2	A41396	insulin-like growt
22	401	67.1	188	2	A54270	insulin-like growt
23	401	67.1	188	2	B54270	insulin-like growt
24	399	66.7	149	2	D54270	insulin-like growt
25	398	66.6	176	2	A46244	insulin-like growt
26	298.5	49.9	126	2	S66485	insulin-like growt
27	293	49.0	193	2	A53697	insulin-like growt
28	264.5	44.2	214	2	B46244	insulin-like growt
29	248.5	41.6	187	2	T10897	insulin-like growt
30	241	40.3	179	2	S04858	insulin-like growt
31	235	39.3	128	2	I57671	insulin-like growt
32	235	39.3	155	1	IGBO2	insulin-like growt
33	233	39.0	180	2	A24913	insulin-like growt
34	231	38.6	180	1	IGHU2	insulin-like growt
35	229.5	38.4	180	1	IGRT2	insulin-like growt
36	228.5	38.2	93	2	I53642	insulin-like growt
37	228	38.1	181	2	B60738	insulin-like growt
38	225.5	37.7	183	2	S02423	insulin-like growt
39	219.5	36.7	139	2	A38612	insulin-like growt
40	219.5	36.7	183	2	I67610	insulin-like growt
41	212.5	35.5	79	2	I51240	insulin-like growt
42	207	34.6	210	2	S66484	insulin-like growt
43	200	33.4	66	2	A60740	insulin-like growt
44	178	29.8	44	2	A34049	insulin-like growt
45	159.5	26.7	50	1	INFIS	insulin - shorthor

ALIGNMENTS

RESULT 1

IGHU1B

insulin-like growth factor I precursor, splice form B [validated] - human

N;Alternate names: IGF-IB; somatomedin C

N;Contains: insulin-like growth factor IB-E1 amide

C;Species: Homo sapiens (man)

C;Date: 30-Jun-1987 #sequence_revision 30-Jun-1987 #text_change 31-Dec-2000

C;Accession: A01611; A26181; S30540; B48960; A42664

R;Rotwein, P.; Pollock, K.M.; Didier, D.K.; Krivi, G.G.

J. Biol. Chem. 261, 4828-4832, 1986

A;Title: Organization and sequence of the human insulin-like growth factor I gene. Alternative RNA processing produces two insulin-like growth factor I precursor peptides.

A;Reference number: A92581; MUID:86168194; PMID:2937782

A;Accession: A01611

A;Molecule type: DNA

A;Residues: 1-195 <ROT1>

A;Cross-references: GB:M14155; NID:g183106; PIDN:AAA52537.1; PID:g183109

R;Rotwein, P.

Proc. Natl. Acad. Sci. U.S.A. 83, 77-81, 1986

A;Title: Two insulin-like growth factor I messenger RNAs are expressed in human liver.
 A;Reference number: A26181; MUID:86094355; PMID:3455760
 A;Accession: A26181
 A;Molecule type: mRNA
 A;Residues: 1-195 <ROT2>
 A;Cross-references: GB:M11568; NID:g183111; PIDN:AAA52539.1; PID:g183112
 R;Sandberg Nordqvist, A.C.; Stahlbom, P.A.; Lake, M.; Sara, V.R. submitted to the EMBL Data Library, November 1990
 A;Description: Nucleotide sequence of the human fetal brain IGF-1b.
 A;Reference number: S30540
 A;Accession: S30540
 A;Molecule type: mRNA
 A;Residues: 1-195 <SAN>
 A;Cross-references: EMBL:X56774; NID:g32991; PIDN:CAA40093.1; PID:g32992
 R;Sandberg-Nordqvist, A.C.; Stahlbom, P.A.; Reinecke, M.; Collins, V.P.; von Holst, H.; Sara, V. Cancer Res. 53, 2475-2478, 1993
 A;Title: Characterization of insulin-like growth factor 1 in human primary brain tumors.
 A;Reference number: A48960; MUID:93265440; PMID:8495408
 A;Accession: B48960
 A;Molecule type: mRNA
 A;Residues: 1-195 <SA2>
 A;Cross-references: GB:X56774; GB:S61860; NID:g32991; PIDN:CAA40093.1; PID:g32992
 A;Experimental source: anaplastic oligodendroglioma
 A;Note: sequence modified after extraction from NCBI backbone
 A;Note: the authors translated the codon CAG for residues 124 and 133 as Glu
 A;Note: sequence extracted from NCBI backbone (NCBIN:133058)
 R;Siegfried, J.M.; Kasprzyk, P.G.; Treston, A.M.; Mulshine, J.L.; Quinn, K.A.; Cuttitta, F. Proc. Natl. Acad. Sci. U.S.A. 89, 8107-8111, 1992
 A;Title: A mitogenic peptide amide encoded within the E peptide domain of the insulin-like growth factor IB prohormone.
 A;Reference number: A42664; MUID:92390398; PMID:1325646
 A;Contents: annotation; IBE-1; amidated carboxyl end
 C;Comment: For an alternative splice form, see PIR:IGHU1.
 C;Genetics:
 A;Gene: GDB:IGF1
 A;Cross-references: GDB:120081; OMIM:147440
 A;Map position: 12q22-12q24.1
 A;Introns: 21/3; 74/1; 134/3
 C;Superfamily: insulin
 C;Keywords: alternative splicing; amidated carboxyl end; growth factor; plasma
 F;1-21/Domain: signal sequence #status predicted <SIG>
 F;22-48/Domain: propeptide #status predicted <PRO>
 F;49-118/Product: insulin-like growth factor I #status predicted <MAT>
 F;49-77/Domain: insulin chain B-like #status predicted <CHB>
 F;78-89/Domain: insulin connecting C peptide-like #status predicted <CHC>
 F;90-110/Domain: insulin chain A-like #status predicted <CHA>
 F;111-118/Domain: D peptide #status predicted <CHD>
 F;119-195/Domain: carboxyl-terminal propeptide (E peptide) #status predicted <CHE>
 F;151-172/Product: insulin-like growth factor IB-E1 amide #status predicted <MA2>
 F;54-96,66-109,95-100/Disulfide bonds: #status predicted

A;Title: Molecular cloning of rat insulin-like growth factor I complementary deoxyribonucleic acids: differential messenger ribonucleic acid processing and regulation by growth hormone in extrahepatic tissues.
A;Reference number: A40912; MUID:88288198; PMID:3453891
A;Accession: A40912
A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-133 <ROB>
A;Cross-references: GB:M15480; NID:g204749; PIDN:AAA41385.1; PID:g204750
C;Superfamily: insulin

Query Match 84.2%; Score 503.5; DB 2; Length 133;
Best Local Similarity 86.5%; Pred. No. 2.8e-45;
Matches 96; Conservative 2; Mismatches 12; Indels 1; Gaps 1;

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Qy      1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 60
          |||
Db      23 GPETLCGAELVDALQFVCGPRGFYFNKPTGYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 82

Qy      61 CAPLKPAKSARSVRAQRHTDMPKTQKYQPPSTNKNTKSQ-RRKGSTFEEHK 110
          |  || ||||:||||| || ||:|  | ||||| |||
Db      83 CVRCKPTKSARSIRAQRHTDMPKTQKSQPLSTHKKRKLQRRRKGSTLEEhk 133

```

RESULT 4

A27804

insulin-like growth factor I precursor - rat

C;Species: Rattus norvegicus (Norway rat)

C;Date: 09-Jun-1988 #sequence_revision 09-Jun-1988 #text_change 16-Jul-1999

C;Accession: A27804; I65202

R;Shimatsu, A.; Rotwein, P.

J. Biol. Chem. 262, 7894-7900, 1987

A;Title: Mosaic evolution of the insulin-like growth factors. Organization, sequence, and expression of the rat insulin-like growth factor I gene.

A;Reference number: A27804; MUID:87222423; PMID:3034909

A;Accession: A27804

A;Status: preliminary

A;Molecule type: DNA

A;Residues: 1-181 <SHI>

A;Cross-references: GB:M15650; GB:J02743; NID:g204296; PIDN:AAA41214.1;

PID:g204299

R;Roberts, C.T.

Biochem. Biophys. Res. Commun. 146, 1154-1159, 1987

A;Title: Rat IGF-I cDNA's contain multiple 5'-untranslated regions.

A;Reference number: I52218; MUID:87298553; PMID:3619921

A;Accession: I65202

A;Status: preliminary; translated from GB/EMBL/DDBJ

A;Molecule type: mRNA

A;Residues: 1-27 <RES>

A;Cross-references: GB:M17594; NID:g204759; PIDN:AAA41390.1; PID:g204760

C;Superfamily: insulin

C;Keywords: alternative splicing

Query Match 82.6%; Score 494; DB 2; Length 181;
Best Local Similarity 84.4%; Pred. No. 3.7e-44;
Matches 92; Conservative 4; Mismatches 13; Indels 0; Gaps 0;

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Qy      1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
        |||
Db      49 GPETLCGAELVDALQFVCGPRGFYFNKPTGYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 108

Qy      61 CAPLKPAKSARSVRAQRHTDMPKTQKYQPPSTNKNTKSQRRKGSTFEEH 109
        |||:|
Db      109 CAPLKPTKSARSIRAQRHTDMPKTQKSQPLSTHKKRKLQRRRKGESKAH 157

```

RESULT 5

```

IGGP1
insulin-like growth factor I precursor - guinea pig
C;Species: Cavia porcellus (guinea pig)
C;Date: 30-Sep-1991 #sequence_revision 30-Sep-1991 #text_change 07-Nov-1997
C;Accession: S12719
R;Bell, G.I.; Stempien, M.M.; Fong, N.M.; Seino, S.
Nucleic Acids Res. 18, 4275, 1990
A;Title: Sequence of a cDNA encoding guinea pig IGF-I.
A;Reference number: S12719; MUID:90332447; PMID:2377480
A;Accession: S12719
A;Molecule type: mRNA
A;Residues: 1-137 <BEL>
A;Cross-references: EMBL:X52951
A;Note: it is uncertain whether Met-1 or Met-8 is the initiator
C;Superfamily: insulin
C;Keywords: glycoprotein; growth factor; plasma
F;1-32/Domain: signal sequence #status predicted <SIG>
F;33-102/Product: insulin-like growth factor I #status predicted <MAT>
F;33-61/Domain: insulin chain B-like #status predicted <CHB>
F;62-73/Domain: insulin connecting C peptide-like #status predicted <CHC>
F;74-94/Domain: insulin chain A-like #status predicted <CHA>
F;95-102/Domain: D peptide #status predicted <CHD>
F;103-137/Domain: carboxyl-terminal propeptide (E peptide) #status predicted
<CHE>
F;124/Binding site: carbohydrate (Asn) (covalent) #status predicted

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```

Query Match          78.3%;  Score 468;  DB 1;  Length 137;
Best Local Similarity 100.0%;  Pred. No. 1.5e-41;
Matches 86;  Conservative 0;  Mismatches 0;  Indels 0;  Gaps 0;

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Qy      1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
        |||
Db      33 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 92

Qy      61 CAPLKPAKSARSVRAQRHTDMPKTQK 86
        |||
Db      93 CAPLKPAKSARSVRAQRHTDMPKTQK 118

```

RESULT 6

```

A36552
insulin-like growth factor 1a precursor - human
C;Species: Homo sapiens (man)
C;Date: 12-Apr-1991 #sequence_revision 12-Apr-1991 #text_change 16-Jul-1999
C;Accession: A36552
R;Tobin, G.; Yee, D.; Bruenner, N.; Rotwein, P.
Mol. Endocrinol. 4, 1914-1920, 1990

```

A;Title: A novel human insulin-like growth factor I messenger RNA is expressed in normal and tumor cells.
A;Reference number: A36552; MUID:91187000; PMID:2082190
A;Accession: A36552
A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-137 <TOB>
A;Cross-references: GB:M37484; NID:g184833; PIDN:AAA52789.1; PID:g184834
C;Superfamily: insulin

Query Match 78.3%; Score 468; DB 2; Length 137;
Best Local Similarity 100.0%; Pred. No. 1.5e-41;
Matches 86; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Qy      1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 60
          |||
Db      33 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 92

Qy      61 CAPLKPAKSARSVRAQRHTDMPKTQK 86
          |||
Db      93 CAPLKPAKSARSVRAQRHTDMPKTQK 118
```

RESULT 7

IGHU1

insulin-like growth factor I precursor, splice form A [validated] - human
N;Alternate names: IGF-I long splice form precursor; IGF-IA; somatomedin C
C;Species: Homo sapiens (man)
C;Date: 24-Apr-1984 #sequence_revision 30-Jun-1987 #text_change 31-Dec-2000
C;Accession: A92581; A23614; A93321; JT0571; A23622; A92226; A60483; S30519;
A48960; I57044; A01610

R;Rotwein, P.; Pollock, K.M.; Didier, D.K.; Krivi, G.G.
J. Biol. Chem. 261, 4828-4832, 1986

A;Title: Organization and sequence of the human insulin-like growth factor I gene. Alternative RNA processing produces two insulin-like growth factor I precursor peptides.

A;Reference number: A92581; MUID:86168194; PMID:2937782

A;Accession: A92581

A;Molecule type: DNA

A;Residues: 1-153 <ROT>

A;Cross-references: GB:M14156; NID:g183107; PIDN:AAA52538.1; PID:g183110
R;de Pagter-Holthuizen, P.; van Schaik, F.M.A.; Verduijn, G.M.; van Ommen, G.J.B.; Bouma, B.N.; Jansen, M.; Sussenbach, J.S.
FEBS Lett. 195, 179-184, 1986

A;Title: Organization of the human genes for insulin-like growth factors I and II.

A;Reference number: A91356; MUID:86108862; PMID:3002851

A;Accession: A23614

A;Molecule type: DNA

A;Residues: 24-153 <DEP>

A;Cross-references: GB:X03420; GB:X00362; NID:g33020; PIDN:CAA27152.1;
PID:g33021; GB:X03421; NID:g33024; PID:g755741; GB:X03422; NID:g33027;
PID:g1335141

R;Jansen, M.; van Schaik, F.M.A.; Ricker, A.T.; Bullock, B.; Woods, D.E.; Gabbay, K.H.; Nussbaum, A.L.; Sussenbach, J.S.; Van den Brande, J.L.
Nature 306, 609-611, 1983

A;Title: Sequence of cDNA encoding human insulin-like growth factor I precursor.

A;Reference number: A93321; MUID:84068210; PMID:6358902
 A;Accession: A93321
 A;Molecule type: mRNA
 A;Residues: 1-153 <JAN>
 A;Cross-references: GB:X00173; NID:g33015; PIDN:CAA24998.1; PID:g33016
 A;Note: Met-24 is proposed as a likely initiator
 R;Steenbergh, P.H.; Koonen-Reemst, A.M.C.B.; Cleutjens, C.B.J.M.; Sussenbach, J.S.
 Biochem. Biophys. Res. Commun. 175, 507-514, 1991
 A;Title: Complete nucleotide sequence of the high molecular weight human IGF-I mRNA.
 A;Reference number: JT0571; MUID:91207342; PMID:2018498
 A;Accession: JT0571
 A;Molecule type: mRNA
 A;Residues: 1-153 <STE>
 A;Cross-references: EMBL:X57025; NID:g33007; PIDN:CAA40342.1; PID:g33008
 R;Le Bouc, Y.; Dreyer, D.; Jaeger, F.; Binoux, M.; Sondermeyer, P.
 FEBS Lett. 196, 108-112, 1986
 A;Title: Complete characterization of the human IGF-I nucleotide sequence isolated from a newly constructed adult liver cDNA library.
 A;Reference number: A23622; MUID:86108910; PMID:2935423
 A;Accession: A23622
 A;Molecule type: mRNA
 A;Residues: 1-153 <LEB>
 A;Cross-references: GB:M27544; NID:g184829; PIDN:AAA52787.1; PID:g306927
 R;Rinderknecht, E.; Humbel, R.E.
 J. Biol. Chem. 253, 2769-2776, 1978
 A;Title: The amino acid sequence of human insulin-like growth factor I and its structural homology with proinsulin.
 A;Reference number: A92226; MUID:78130171; PMID:632300
 A;Accession: A92226
 A;Molecule type: protein
 A;Residues: 49-118 <RIN>
 R;Karey, K.P.; Marquardt, H.; Sirbasku, D.A.
 Blood 74, 1084-1092, 1989
 A;Title: Human platelet-derived mitogens. Identification of insulinlike growth factors I and II by purification and N(alpha) amino acid sequence analysis.
 A;Reference number: A60483; MUID:89323462; PMID:2752153
 A;Accession: A60483
 A;Molecule type: protein
 A;Residues: 49-53, 'X', 55-65, 'X', 67-75 <KAR>
 A;Experimental source: platelet lysate
 R;Nordqvist Sandberg, A.C.; Stahlbom, P.A.; Lake, M.; Sara, V.R.
 submitted to the EMBL Data Library, November 1990
 A;Description: Nucleotide sequence of the human fetal brain IGF-1a.
 A;Reference number: S30519
 A;Accession: S30519
 A;Status: preliminary
 A;Molecule type: mRNA
 A;Residues: 1-153 <NOR>
 A;Cross-references: EMBL:X56773; NID:g32989; PIDN:CAA40092.1; PID:g32990
 R;Sandberg-Nordqvist, A.C.; Stahlbom, P.A.; Reinecke, M.; Collins, V.P.; von Holst, H.; Sara, V.
 Cancer Res. 53, 2475-2478, 1993
 A;Title: Characterization of insulin-like growth factor 1 in human primary brain tumors.
 A;Reference number: A48960; MUID:93265440; PMID:8495408

A;Accession: A48960
 A;Molecule type: mRNA
 A;Residues: 1-123,'E',125-132,'E',134-153 <SAN>
 A;Cross-references: GB:X56773; GB:S61841; NID:g32989
 A;Experimental source: anaplastic oligodendroglioma
 A;Note: sequence extracted from NCBI backbone (NCBIN:133056, NCBIP:133057)
 A;Note: sequence inconsistent with the nucleotide translation
 R;Rall, L.B.; Scott, J.; Bell, G.I.
 Meth. Enzymol. 146, 239-248, 1987
 A;Title: Human insulin-like growth factor I and II messenger RNA: isolation of complementary DNA and analysis of expression.
 A;Reference number: I57044; MUID:88065102; PMID:3683205
 A;Accession: I57044
 A;Status: preliminary; translated from GB/EMBL/DDBJ
 A;Molecule type: mRNA
 A;Residues: 24-153 <RAL>
 A;Cross-references: GB:M29644; NID:g183119; PIDN:AAA52543.1; PID:g183120
 C;Comment: The insulin-like growth factors, isolated from plasma, are structurally and functionally related to insulin but have a much higher growth-promoting activity.
 C;Comment: For an alternative splice form, see PIR:IGHU1B.
 C;Genetics:
 A;Gene: GDB:IGF1
 A;Cross-references: GDB:120081; OMIM:147440
 A;Map position: 12q22-12q24.1
 A;Introns: 21/3; 74/1; 134/3
 C;Superfamily: insulin
 C;Keywords: alternative splicing; growth factor; plasma
 F;1-21/Domain: signal sequence #status predicted <SIG>
 F;22-48/Domain: propeptide #status predicted <PRO>
 F;49-118/Product: insulin-like growth factor I #status experimental <MAT>
 F;49-77/Domain: insulin chain B-like #status experimental <CHB>
 F;78-89/Domain: insulin connecting C peptide-like #status experimental <CHC>
 F;90-110/Domain: insulin chain A-like #status experimental <CHA>
 F;111-118/Domain: D peptide #status experimental <CHD>
 F;119-153/Domain: carboxyl-terminal propeptide (E peptide) #status predicted <CPRO>
 F;54-96,66-109,95-100/Disulfide bonds: #status predicted

Query Match 78.3%; Score 468; DB 1; Length 153;
 Best Local Similarity 100.0%; Pred. No. 1.6e-41;
 Matches 86; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Qy      1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 60
          |||
Db      49 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 108

Qy      61 CAPLKPAKSARSVRAQRHTDMPKTQK 86
          |||
Db      109 CAPLKPAKSARSVRAQRHTDMPKTQK 134
  
```

RESULT 8
 S12825
 insulin-like growth factor I precursor - pig
 N;Alternate names: somatomedin C
 C;Species: Sus scrofa domestica (domestic pig)

C;Date: 13-Jan-1995 #sequence_revision 13-Jan-1995 #text_change 16-Jul-1999
 C;Accession: S12825; S21488; A34938; A60738
 R;Mueller, M.; Brem, G.
 Nucleic Acids Res. 18, 364, 1990
 A;Title: Nucleotide sequence of porcine insulin-like growth factor I: 5' untranslated region, exons 1 and 2 and mRNA.
 A;Reference number: S12825; MUID:90221822; PMID:2326169
 A;Accession: S12825
 A;Status: preliminary
 A;Molecule type: DNA
 A;Residues: 1-153 <MUE>
 A;Cross-references: EMBL:X52388
 R;Dickson, M.C.; Huskisson, N.S.; Gilmour, R.S.
 submitted to the EMBL Data Library, November 1989
 A;Description: Porcine Insulin-like growth factor gene: sequence of exon and 5' non-coding region.
 A;Reference number: S21488
 A;Accession: S21488
 A;Molecule type: DNA
 A;Residues: 1-21 <DIC>
 A;Cross-references: EMBL:X17638; NID:g1995; PIDN:CAA35632.1; PID:g1996
 R;Tavakkol, A.; Simmen, F.A.; Simmen, R.C.M.
 Mol. Endocrinol. 2, 674-681, 1988
 A;Title: Porcine insulin-like growth factor-I (pIGF-I): complementary deoxyribonucleic acid cloning and uterine expression of messenger ribonucleic acid encoding evolutionarily conserved IGF-I peptides.
 A;Reference number: A34938; MUID:89096956; PMID:3211153
 A;Accession: A34938
 A;Molecule type: mRNA
 A;Residues: 'Y',21-153 <TAV>
 A;Cross-references: GB:M31175
 R;Francis, G.L.; Owens, P.C.; McNeil, K.A.; Wallace, J.C.; Ballard, F.J.
 J. Endocrinol. 122, 681-687, 1989
 A;Title: Purification, amino acid sequences and assay cross-reactivities of porcine insulin-like growth factor-I and -II.
 A;Reference number: A60738; MUID:90039035; PMID:2809477
 A;Accession: A60738
 A;Molecule type: protein
 A;Residues: 49-117,'X' <FRA>
 C;Genetics:
 A;Introns: 21/3; 74/1
 C;Superfamily: insulin
 C;Keywords: growth factor
 F;1-22/Domain: signal sequence #status predicted <SIG>
 F;23-48/Domain: propeptide #status predicted <PRO>
 F;49-153/Product: insulin-like growth factor IA #status experimental <MAT>

Query Match 77.7%; Score 464.5; DB 2; Length 153;
 Best Local Similarity 87.3%; Pred. No. 3.8e-41;
 Matches 89; Conservative 1; Mismatches 5; Indels 7; Gaps 1;

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Qy      1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRAPQTGIVDECCFRSCDLRRLEMY 60
          |||
Db      49 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRAPQTGIVDECCFRSCDLRRLEMY 108

Qy      61 CAPLKPAKSARSVRAQRHTDMPKTQK-----YQPPSTNKN 95
          ||| : |||
  
```

Db 109 CAPLKPAKSARSVRAQRHTDMPKAQKEVHLKNTSRGSSGNKN 150

RESULT 9

PN0622

insulin-like growth factor Ia precursor - dog (fragment)

C;Species: Canis lupus familiaris (dog)

C;Date: 10-Mar-1994 #sequence_revision 10-Mar-1994 #text_change 07-May-1999

C;Accession: PN0622

R;Delafontaine, P.; Lou, H.; Harrison, D.G.; Bernstein, K.E.

Gene 130, 305-306, 1993

A;Title: Sequence of a cDNA encoding dog insulin-like growth factor I.

A;Reference number: PN0622; MUID:93366192; PMID:8359700

A;Accession: PN0622

A;Molecule type: mRNA

A;Residues: 1-122

C;Comment: This protein is a potent inducer of DNA synthesis in multiple cell types, acting primarily by stimulating cell progression through G1 into S phase.

C;Genetics:

A;Gene: IGF1a

C;Superfamily: insulin

C;Keywords: growth factor

F;20-89/Product: insulin-like growth factor Ia (fragment) #status predicted

<MAT>

Query Match 77.4%; Score 463; DB 2; Length 122;

Best Local Similarity 98.8%; Pred. No. 4.3e-41;

Matches 85; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 60

|||||

Db 20 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 79

Qy 61 CAPLKPAKSARSVRAQRHTDMPKTQK 86

|||||

Db 80 CAPLKPAKSARSVRAQRHTDMPKAQK 105

RESULT 10

IGBO1

insulin-like growth factor IA precursor - bovine (fragment)

N;Alternate names: IGF-I; somatomedin C

C;Species: Bos primigenius taurus (cattle)

C;Date: 31-Mar-1988 #sequence_revision 28-Apr-1995 #text_change 18-Jun-1999

C;Accession: S12672; A25623; S00465

R;Fotsis, T.; Murphy, C.; Gannon, F.

Nucleic Acids Res. 18, 676, 1990

A;Title: Nucleotide sequence of the bovine insulin-like growth factor 1 (IGF-1) and its IGF-1A precursor.

A;Reference number: S12672; MUID:90175014; PMID:2308858

A;Accession: S12672

A;Molecule type: mRNA

A;Residues: 1-153 <FOT>

A;Cross-references: EMBL:X15726; NID:g454; PIDN:CAA33746.1; PID:g455

A;Experimental source: liver

R;Honegger, A.; Humbel, R.E.

J. Biol. Chem. 261, 569-575, 1986

A;Title: Insulin-like growth factors I and II in fetal and adult bovine serum. Purification, primary structures, and immunological cross-reactivities.
A;Reference number: A92585; MUID:86085881; PMID:3941093
A;Accession: A25623
A;Molecule type: protein
A;Residues: 49-118 <HON>
R;Francis, G.L.; Upton, F.M.; Ballard, F.J.; McNeil, K.A.; Wallace, J.C.
Biochem. J. 251, 95-103, 1988
A;Title: Insulin-like growth factors 1 and 2 in bovine colostrum. Sequences and biological activities compared with those of a potent truncated form.
A;Reference number: S00465; MUID:88268820; PMID:3390164
A;Accession: S00465
A;Molecule type: protein
A;Residues: 49-118 <FRA>
A;Experimental source: colostrum
A;Note: a form of IGF-I lacking the first three residues and possessing enhanced biological activity compared with IGF-I was also sequenced
C;Superfamily: insulin
C;Keywords: alternative splicing; colostrum; growth factor; plasma
F;1-20/Domain: signal sequence (fragment) #status predicted <SIG>
F;22-48/Domain: propeptide #status predicted <PRO>
F;49-118/Product: insulin-like growth factor IA (active) #status experimental <MAT>
F;49-77/Domain: insulin B chain-like #status experimental <DOB>
F;78-89/Domain: insulin connecting C peptide-like #status experimental <CHC>
F;90-110/Domain: insulin A chain-like #status experimental <DOA>
F;111-118/Domain: D peptide #status experimental <CHD>
F;119-153/Domain: carboxyl-terminal propeptide (E peptide) #status predicted <CPR>
F;54-96,66-109,95-100/Disulfide bonds: #status predicted

Query Match 77.4%; Score 463; DB 1; Length 153;
Best Local Similarity 98.8%; Pred. No. 5.4e-41;
Matches 85; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

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Qy      1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 60
          |||
Db      49 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 108

Qy      61 CAPLKPAKSARSVRAQRHTDMPKTQK 86
          |||
Db      109 CAPLKPAKSARSVRAQRHTDMPKAQK 134

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RESULT 11

JC2483

insulin-like growth factor-I precursor - goat

C;Species: Capra aegagrus hircus (domestic goat)

C;Date: 16-Mar-1995 #sequence_revision 26-May-1995 #text_change 17-Mar-1999

C;Accession: JC2483

R;Mikawa, S.; Yoshikawa, G.; Aoki, H.; Yamano, Y.; Sakai, H.; Komano, T.

Biosci. Biotechnol. Biochem. 59, 87-92, 1995

A;Title: Dynamic aspects in the expression of the goat insulin-like growth factor-I (IGF-I) gene: Diversity in transcription and post-transcription.

A;Reference number: JC2483; MUID:95201385; PMID:7765981

A;Accession: JC2483

A;Molecule type: mRNA

A;Residues: 1-154 <MIK>
A;Cross-references: GB:S11378; DDBJ:D26116; DDBJ:D26117; DDBJ:D26118;
DDBJ:D26119
C;Genetics:
A;Introns: 21/3; 75/1; 135/3
C;Superfamily: insulin
F;1-49/Domain: signal sequence #status predicted <SIG>
F;50-119/Product: insulin-like growth factor-I #status predicted <MAT>
F;120-154/Region: E domain

Query Match 76.8%; Score 459; DB 2; Length 154;
Best Local Similarity 97.7%; Pred. No. 1.4e-40;
Matches 84; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

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Qy      1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 60
          |||
Db      50 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 109

Qy      61 CAPLKPAKSARSVRAQRHTDMPKTQK 86
          |||
Db     110 CAPLKPTKSARSVRAQRHTDMPKAQK 135
```

RESULT 12

S22878

insulin-like growth factor I precursor, splice form 2 - sheep

C;Species: Ovis orientalis aries, Ovis ammon aries (domestic sheep)

C;Date: 23-Apr-1999 #sequence_revision 23-Apr-1999 #text_change 23-Jul-1999

C;Accession: S22878; S07198

R;Dickson, M.C.; Saunders, J.C.; Gilmour, R.S.

J. Mol. Endocrinol. 6, 17-31, 1991

A;Title: The ovine insulin-like growth factor-I gene: characterization,
expression and identification of a putative promoter.

A;Reference number: S22877; MUID:91197361; PMID:2015053

A;Accession: S22878

A;Status: preliminary

A;Molecule type: DNA

A;Residues: 1-138 <DIC>

A;Cross-references: EMBL:X51358

R;Francis, G.L.; McNeil, K.A.; Wallace, J.C.; Ballard, F.J.; Owens, P.C.
Endocrinology 124, 1173-1183, 1989

A;Title: Sheep insulin-like growth factors I and II: sequences, activities and
assays.

A;Reference number: S07198; MUID:89136887; PMID:2537174

A;Accession: S07198

A;Molecule type: protein

A;Residues: 34-103 <FRA>

A;Experimental source: fetal plasma

C;Genetics:

A;Introns: 5/3; 59/1; 119/3

C;Superfamily: insulin

C;Keywords: alternative splicing; growth factor; plasma

F;7-33/Domain: propeptide #status predicted <PRO>

F;34-103/Product: insulin-like growth factor I (active) #status experimental
<MAT>

F;34-62/Domain: insulin chain B-like #status predicted <DOB>

F;63-74/Domain: insulin connecting peptide-like #status predicted <CHC>

F;75-95/Domain: insulin chain A-like #status predicted <DOA>
 F;96-103/Domain: peptide D #status predicted <CHD>
 F;104-138/Domain: carboxyl-terminal propeptide (E peptide) #status predicted
 <CTP>
 F;39-81,51-94,80-85/Disulfide bonds: #status predicted

Query Match 76.1%; Score 455; DB 2; Length 138;
 Best Local Similarity 97.7%; Pred. No. 3.3e-40;
 Matches 84; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

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Qy      1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 60
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db      34 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 93

Qy      61 CAPLKPAKSARSVRAQRHTDMPKTQK 86
          ||||| |||||||||||||||| ||
Db      94 CAPLKAASARSVRAQRHTDMPKAQK 119
```

RESULT 13

A33390
 insulin-like growth factor I precursor, splice form 1 - sheep
 N;Alternate names: somatomedin C
 C;Species: Ovis orientalis aries, Ovis ammon aries (domestic sheep)
 C;Date: 09-Mar-1990 #sequence_revision 27-Feb-1997 #text_change 23-Jul-1999
 C;Accession: S22877; A33390; S07965; S07198
 R;Dickson, M.C.; Saunders, J.C.; Gilmour, R.S.
 J. Mol. Endocrinol. 6, 17-31, 1991
 A;Title: The ovine insulin-like growth factor-I gene: characterization,
 expression and identification of a putative promoter.
 A;Reference number: S22877; MUID:91197361; PMID:2015053
 A;Accession: S22877
 A;Molecule type: DNA
 A;Residues: 1-154 <DIC>
 A;Cross-references: EMBL:X51358
 R;Wong, E.A.; Ohlsen, S.M.; Godfredson, J.A.; Dean, D.M.; Wheaton, J.E.
 DNA 8, 649-657, 1989
 A;Title: Cloning of ovine insulin-like growth factor-I cDNAs: heterogeneity in
 the mRNA population.
 A;Reference number: A33390; MUID:90126234; PMID:2575490
 A;Accession: A33390
 A;Molecule type: mRNA
 A;Residues: 1-43,'SS',46-154 <WON>
 A;Cross-references: GB:M30653; NID:g165929; PIDN:AAA80532.1; PID:g165930
 R;Hey, A.W.; Browne, C.A.; Simpson, R.J.; Thorburn, G.D.
 Biochim. Biophys. Acta 997, 27-35, 1989
 A;Title: Simultaneous isolation of insulin-like growth factors I and II from
 adult sheep serum.
 A;Reference number: S04972; MUID:89323215; PMID:2752053
 A;Accession: S07965
 A;Molecule type: protein
 A;Residues: 50-79 <HEY>
 R;Francis, G.L.; McNeil, K.A.; Wallace, J.C.; Ballard, F.J.; Owens, P.C.
 Endocrinology 124, 1173-1183, 1989
 A;Title: Sheep insulin-like growth factors I and II: sequences, activities and
 assays.
 A;Reference number: S07198; MUID:89136887; PMID:2537174

A;Accession: S07198
 A;Molecule type: protein
 A;Residues: 50-119 <FRA>
 A;Experimental source: fetal plasma
 C;Genetics:
 A;Introns: 21/3; 75/1; 135/3
 C;Superfamily: insulin
 C;Keywords: alternative splicing; growth factor; plasma
 F;1-21/Domain: signal sequence #status predicted <SIG>
 F;22-49/Domain: propeptide #status predicted <PRO>
 F;50-119/Product: insulin-like growth factor I (active) #status experimental
 <MAT>
 F;50-78/Domain: insulin chain B-like #status predicted <DOB>
 F;79-90/Domain: insulin connecting peptide-like #status predicted <CHC>
 F;91-111/Domain: insulin chain A-like #status predicted <DOA>
 F;112-119/Domain: peptide D #status predicted <CHD>
 F;120-154/Domain: carboxyl-terminal propeptide (E peptide) #status predicted
 <CTP>
 F;55-97,67-110,96-101/Disulfide bonds: #status predicted

Query Match 76.1%; Score 455; DB 2; Length 154;
 Best Local Similarity 97.7%; Pred. No. 3.7e-40;
 Matches 84; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

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Qy      1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 60
          |||
Db      50 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 109

Qy      61 CAPLKPAKSARSVRAQRHTDMPKTQK 86
          |||
Db      110 CAPLKAASARSVRAQRHTDMPKAQK 135
  
```

RESULT 14

B27804

insulin-like growth factor IA precursor - rat

N;Alternate names: IGF-IA; somatomedin C

C;Species: Rattus norvegicus (Norway rat)

C;Date: 16-Mar-1989 #sequence_revision 16-Mar-1989 #text_change 21-Jul-2000

C;Accession: B27804; A27849; JH0133; A28504; JN0088; A32857; A61096

R;Shimatsu, A.; Rotwein, P.

J. Biol. Chem. 262, 7894-7900, 1987

A;Title: Mosaic evolution of the insulin-like growth factors. Organization, sequence, and expression of the rat insulin-like growth factor I gene.

A;Reference number: A27804; MUID:87222423; PMID:3034909

A;Accession: B27804

A;Molecule type: DNA

A;Residues: 1-153 <SHI>

A;Cross-references: GB:M15651; GB:J02743; NID:g204297; PIDN:AAA41215.1; PID:g204300

R;Casella, S.J.; Smith, E.P.; Van Wyk, J.J.; Joseph, D.R.; Hynes, M.A.; Hoyt, E.C.; Lund, P.K.

DNA 6, 325-330, 1987

A;Title: Isolation of rat testis cDNAs encoding an insulin-like growth factor I precursor.

A;Reference number: A27849; MUID:88003970; PMID:3652906

A;Accession: A27849

A;Molecule type: mRNA
 A;Residues: 27-153 <CAS>
 A;Cross-references: GB:M17335; NID:g204751; PIDN:AAA41386.1; PID:g204752
 R;Kato, H.; Okoshi, A.; Miura, Y.; Noguchi, T.
 Agric. Biol. Chem. 54, 1599-1601, 1990
 A;Title: A new cDNA clone relating to larger molecular species of rat insulin-like growth factor-I mRNA.
 A;Reference number: JH0133; MUID:91103966; PMID:1368571
 A;Accession: JH0133
 A;Molecule type: mRNA
 A;Residues: 27-153 <KAT>
 A;Cross-references: GB:D00698; NID:g220780; PIDN:BAA00604.1; PID:g220781
 A;Experimental source: liver
 R;Murphy, L.J.; Bell, G.I.; Duckworth, M.L.; Friesen, H.G.
 Endocrinology 121, 684-691, 1987
 A;Title: Identification, characterization, and regulation of a rat complementary deoxyribonucleic acid which encodes insulin-like growth factor-I.
 A;Reference number: A28504; MUID:87246437; PMID:3595538
 A;Accession: A28504
 A;Molecule type: mRNA
 A;Residues: 46-153 <MUR>
 A;Cross-references: GB:M17714; NID:g204324; PIDN:AAA41227.1; PID:g204325
 R;Kato, H.; Takenaka, A.; Miura, Y.; Nishiyama, M.; Noguchi, T.
 Agric. Biol. Chem. 54, 2225-2230, 1990
 A;Title: Evidence of introduction by molecular cloning of artificial inverted sequence at the 5' terminus of the sense strand of rat insulin-like growth factor-I cDNA.
 A;Reference number: JN0088; MUID:91136779; PMID:1368576
 A;Accession: JN0088
 A;Molecule type: mRNA
 A;Residues: 'MSAPP', 22-153 <KA2>
 A;Experimental source: liver
 A;Note: the authors present evidence that this mRNA may contain an artifactual inversion
 R;Tamura, K.; Kobayashi, M.; Ishii, Y.; Tamura, T.; Hashimoto, K.; Nakamura, S.; Niwa, M.; Zapf, J.
 J. Biol. Chem. 264, 5616-5621, 1989
 A;Title: Primary structure of rat insulin-like growth factor-I and its biological activities.
 A;Reference number: A32857; MUID:89174609; PMID:2538424
 A;Accession: A32857
 A;Molecule type: protein
 A;Residues: 49-118 <TAM>
 R;Canalis, E.; McCarthy, T.; Centrella, M.
 Endocrinology 122, 22-27, 1988
 A;Title: Isolation and characterization of insulin-like growth factor I (somatomedin-C) from cultures of fetal rat calvariae.
 A;Reference number: A61096; MUID:88082445; PMID:3335205
 A;Accession: A61096
 A;Molecule type: protein
 A;Residues: 49-53, 'X', 55-65 <CAN>
 C;Superfamily: insulin
 C;Keywords: alternative splicing; growth factor
 F;49-118/Product: insulin-like growth factor I #status experimental <ILG>

Query Match 75.3%; Score 450; DB 2; Length 153;
 Best Local Similarity 95.3%; Pred. No. 1.2e-39;

Matches 82; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

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Qy      1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
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Db      49 GPETLCGAELVDALQFVCGPRGFYFNKPTGYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 108

Qy      61 CAPLKPAKSARSVRAQRHTDMPKTQK 86
      |||||
Db      109 CAPLKPTKSARSIRAQRHTDMPKTQK 134

```

RESULT 15

A25540

insulin-like growth factor IA precursor - mouse

N;Alternate names: IGF-IA; somatomedin C

C;Species: Mus musculus (house mouse)

C;Date: 30-Jun-1988 #sequence_revision 30-Jun-1988 #text_change 16-Jul-1999

C;Accession: A25540; I55295; I59090; B25540

R;Bell, G.I.; Stempien, M.M.; Fong, N.M.; Rall, L.B.

Nucleic Acids Res. 14, 7873-7882, 1986

A;Title: Sequences of liver cDNAs encoding two different mouse insulin-like growth factor I precursors.

A;Reference number: A93643; MUID:87040760; PMID:3774549

A;Accession: A25540

A;Molecule type: mRNA

A;Residues: 1-127 <BEL>

A;Cross-references: GB:X04480; NID:g51801; PIDN:CAA28168.1; PID:g51802

R;Tollefsen, S.E.; Lajara, R.; McCusker, R.H.; Clemmons, D.R.; Rotwein, P. J. Biol. Chem. 264, 13810-13817, 1989

A;Title: Insulin-like growth factors (IGF) in muscle development. Expression of IGF-I, the IGF-I receptor, and an IGF binding protein during myoblast differentiation.

A;Reference number: I55295; MUID:89340472; PMID:2474537

A;Accession: I55295

A;Status: preliminary; translated from GB/EMBL/DDBJ

A;Molecule type: DNA

A;Residues: 49-108 <RES>

A;Cross-references: GB:M28139; NID:g341835; PIDN:AAA74553.1; PID:g550489

R;Mathews, L.S.; Norstedt, G.; Palmiter, R.D.

Proc. Natl. Acad. Sci. U.S.A. 83, 9343-9347, 1986

A;Title: Regulation of insulin-like growth factor I gene expression by growth hormone.

A;Reference number: I59090; MUID:87092249; PMID:3467309

A;Accession: I59090

A;Status: preliminary; translated from GB/EMBL/DDBJ

A;Molecule type: DNA

A;Residues: 49-108 <RE2>

A;Cross-references: GB:M14983; NID:g194495; PIDN:AAA37925.1; PID:g194496

C;Genetics:

A;Gene: igf1

C;Superfamily: insulin

C;Keywords: alternative splicing; growth factor

F;1-22/Domain: signal sequence #status predicted <SIG>

F;23-127/Product: insulin-like growth factor IA (active) #status predicted <MAT>

F;23-51/Domain: insulin chain B-like #status predicted <DOB>

F;52-63/Domain: insulin connecting C peptide-like #status predicted <DOC>

F;64-84/Domain: insulin chain A-like #status predicted <DOA>

F;85-92/Domain: D peptide #status predicted <DOD>
F;93-127/Domain: carboxyl-terminal propeptide (E peptide) #status predicted
<CTP>

Query Match 74.7%; Score 447; DB 2; Length 127;
Best Local Similarity 94.2%; Pred. No. 2.1e-39;
Matches 81; Conservative 2; Mismatches 3; Indels 0; Gaps 0;

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Qy      1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 60
          |||
Db      23 GPETLCGAELVDALQFVCGPRGFYFNKPTGYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 82
          |||

Qy      61 CAPLKPAKSARSVRAQRHTDMPKTQK 86
          |||
Db      83 CAPLKPTKAARSIRAQRHTDMPKTQK 108
          |||
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Job time : 12.5964 secs

OM protein - protein search, using sw model

Run on: December 12, 2003, 16:39:37 ; Search time 23.8554 Seconds
(without alignments)
857.591 Million cell updates/sec

Title: US-09-852-261-2
Perfect score: 598
Sequence: 1 GPETLCGAELVDALQFVCGD.....STNKNTKSQRRKGSTFEEHK 110

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 684280 seqs, 185983659 residues

Total number of hits satisfying chosen parameters: 684280

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : Published Applications_AA:*

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- 2: /cgn2_6/ptodata/2/pubpaa/PCT_NEW_PUB.pep:*
- 3: /cgn2_6/ptodata/2/pubpaa/US06_NEW_PUB.pep:*
- 4: /cgn2_6/ptodata/2/pubpaa/US06_PUBCOMB.pep:*
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- 9: /cgn2_6/ptodata/2/pubpaa/US09A_PUBCOMB.pep:*
- 10: /cgn2_6/ptodata/2/pubpaa/US09B_PUBCOMB.pep:*
- 11: /cgn2_6/ptodata/2/pubpaa/US09C_PUBCOMB.pep:*
- 12: /cgn2_6/ptodata/2/pubpaa/US09_NEW_PUB.pep:*
- 13: /cgn2_6/ptodata/2/pubpaa/US10A_PUBCOMB.pep:*
- 14: /cgn2_6/ptodata/2/pubpaa/US10B_PUBCOMB.pep:*
- 15: /cgn2_6/ptodata/2/pubpaa/US10C_PUBCOMB.pep:*
- 16: /cgn2_6/ptodata/2/pubpaa/US10_NEW_PUB.pep:*
- 17: /cgn2_6/ptodata/2/pubpaa/US60_NEW_PUB.pep:*
- 18: /cgn2_6/ptodata/2/pubpaa/US60_PUBCOMB.pep:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

8

Result	Query					
No.	Score	Match	Length	DB	ID	Description

1	598	100.0	110	9	US-09-852-261-2	Sequence 2, Appli
2	572.5	95.7	111	9	US-09-852-261-6	Sequence 6, Appli
3	521.5	87.2	133	15	US-10-161-088-2	Sequence 2, Appli
4	494.5	82.7	111	9	US-09-852-261-4	Sequence 4, Appli
5	468	78.3	105	9	US-09-852-261-10	Sequence 10, Appl
6	468	78.3	137	12	US-10-251-661-8	Sequence 8, Appli
7	468	78.3	153	10	US-09-919-497-74	Sequence 74, Appl
8	468	78.3	153	15	US-10-136-639-3	Sequence 3, Appli
9	468	78.3	153	15	US-10-207-655-55	Sequence 55, Appl
10	465	77.8	105	9	US-09-852-261-14	Sequence 14, Appl
11	463	77.4	105	15	US-10-238-114-3	Sequence 3, Appli
12	463	77.4	153	15	US-10-238-114-2	Sequence 2, Appli
13	457.5	76.5	191	9	US-09-921-398-41	Sequence 41, Appl
14	457.5	76.5	191	15	US-10-280-826-41	Sequence 41, Appl
15	423	70.7	105	9	US-09-852-261-12	Sequence 12, Appl
16	386	64.5	953	12	US-10-241-596-14	Sequence 14, Appl
17	385	64.4	70	10	US-09-848-664-29	Sequence 29, Appl
18	385	64.4	70	10	US-09-848-664-30	Sequence 30, Appl
19	385	64.4	70	10	US-09-903-327A-8	Sequence 8, Appli
20	385	64.4	70	11	US-09-858-935B-3	Sequence 3, Appli
21	385	64.4	70	12	US-10-444-326-1	Sequence 1, Appli
22	385	64.4	70	14	US-10-028-410-1	Sequence 1, Appli
23	385	64.4	70	14	US-10-066-009A-1	Sequence 1, Appli
24	385	64.4	70	15	US-10-136-639-1	Sequence 1, Appli
25	385	64.4	70	15	US-10-136-841-7	Sequence 7, Appli
26	385	64.4	118	15	US-10-179-046-14	Sequence 14, Appl
27	385	64.4	155	9	US-09-921-398-39	Sequence 39, Appl
28	385	64.4	155	15	US-10-280-826-39	Sequence 39, Appl
29	385	64.4	510	10	US-09-903-327A-12	Sequence 12, Appl
30	378	63.2	91	12	US-10-323-046-42	Sequence 42, Appl
31	317	53.0	68	12	US-10-339-740-218	Sequence 218, App
32	300	50.2	56	14	US-10-066-009A-5	Sequence 5, Appli
33	237	39.6	180	15	US-10-207-655-57	Sequence 57, Appl
34	231	38.6	156	10	US-09-972-809-7	Sequence 7, Appli
35	231	38.6	180	15	US-10-081-119-38	Sequence 38, Appl
36	231	38.6	180	15	US-10-136-841-2	Sequence 2, Appli
37	231	38.6	180	15	US-10-097-340-145	Sequence 145, App
38	223.5	37.4	46	9	US-09-205-658-138	Sequence 138, App
39	223.5	37.4	46	9	US-09-205-658-139	Sequence 139, App
40	223.5	37.4	46	12	US-09-963-693-138	Sequence 138, App
41	223.5	37.4	46	12	US-09-963-693-139	Sequence 139, App
42	223	37.3	67	14	US-10-066-009A-2	Sequence 2, Appli
43	223	37.3	67	15	US-10-136-639-2	Sequence 2, Appli
44	223	37.3	67	15	US-10-136-841-8	Sequence 8, Appli
45	223	37.3	70	15	US-10-136-841-4	Sequence 4, Appli

ALIGNMENTS

RESULT 1
 US-09-852-261-2
 ; Sequence 2, Application US/09852261
 ; Patent No. US20020083477A1
 ; GENERAL INFORMATION:
 ; APPLICANT: GOLDSPIK, GEOFFREY

; APPLICANT: TERENGHI, GIORGIO
; TITLE OF INVENTION: REPAIR OF NERVE DAMAGE
; FILE REFERENCE: 117-351
; CURRENT APPLICATION NUMBER: US/09/852,261
; CURRENT FILING DATE: 2001-05-10
; PRIOR APPLICATION NUMBER: GB 0011278.9
; PRIOR FILING DATE: 2000-05-10
; NUMBER OF SEQ ID NOS: 14
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 2
; LENGTH: 110
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-852-261-2

Query Match 100.0%; Score 598; DB 9; Length 110;
Best Local Similarity 100.0%; Pred. No. 1.8e-61;
Matches 110; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Db      1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy      61 CAPLKPAKSARSVRAQRHTDMPKTQKYQPPSTNKNTKSQRRKGSTFEEHK 110
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Db      61 CAPLKPAKSARSVRAQRHTDMPKTQKYQPPSTNKNTKSQRRKGSTFEEHK 110
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RESULT 2

US-09-852-261-6
; Sequence 6, Application US/09852261
; Patent No. US20020083477A1
; GENERAL INFORMATION:
; APPLICANT: GOLDSPINK, GEOFFREY
; APPLICANT: TERENGHI, GIORGIO
; TITLE OF INVENTION: REPAIR OF NERVE DAMAGE
; FILE REFERENCE: 117-351
; CURRENT APPLICATION NUMBER: US/09/852,261
; CURRENT FILING DATE: 2001-05-10
; PRIOR APPLICATION NUMBER: GB 0011278.9
; PRIOR FILING DATE: 2000-05-10
; NUMBER OF SEQ ID NOS: 14
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 6
; LENGTH: 111
; TYPE: PRT
; ORGANISM: Oryctolagus cuniculus
US-09-852-261-6

Query Match 95.7%; Score 572.5; DB 9; Length 111;
Best Local Similarity 96.4%; Pred. No. 1.6e-58;
Matches 107; Conservative 1; Mismatches 2; Indels 1; Gaps 1;

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Qy      1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 60
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Db      1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 60
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RESULT 4
US-09-852-261-4
; Sequence 4, Application US/09852261
; Patent No. US20020083477A1
; GENERAL INFORMATION:
; APPLICANT: GOLDSPINK, GEOFFREY
; APPLICANT: TERENGHI, GIORGIO
; TITLE OF INVENTION: REPAIR OF NERVE DAMAGE
; FILE REFERENCE: 117-351
; CURRENT APPLICATION NUMBER: US/09/852,261
; CURRENT FILING DATE: 2001-05-10
; PRIOR APPLICATION NUMBER: GB 0011278.9
; PRIOR FILING DATE: 2000-05-10
; NUMBER OF SEQ ID NOS: 14
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 4
; LENGTH: 111
; TYPE: PRT

; ORGANISM: Rattus sp.
US-09-852-261-4

Query Match 82.7%; Score 494.5; DB 9; Length 111;
Best Local Similarity 85.6%; Pred. No. 1.7e-49;
Matches 95; Conservative 2; Mismatches 13; Indels 1; Gaps 1;

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Db      1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy      61 CAPLKPAKSARSVRAQRHTDMPKTQKYQPPSTNKNTKSQ-RRKGSTFEEHK 110
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Db      61 CVRCKPTKSARSIRAQRHTDMPKTQKSQPLSTHKKRKLQRRRKGSTLEEhk 111
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RESULT 5

US-09-852-261-10
; Sequence 10, Application US/09852261
; Patent No. US20020083477A1
; GENERAL INFORMATION:
; APPLICANT: GOLDSPIK, GEOFFREY
; APPLICANT: TERENCE, GIORGIO
; TITLE OF INVENTION: REPAIR OF NERVE DAMAGE
; FILE REFERENCE: 117-351
; CURRENT APPLICATION NUMBER: US/09/852,261
; CURRENT FILING DATE: 2001-05-10
; PRIOR APPLICATION NUMBER: GB 0011278.9
; PRIOR FILING DATE: 2000-05-10
; NUMBER OF SEQ ID NOS: 14
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 10
; LENGTH: 105
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-852-261-10

Query Match 78.3%; Score 468; DB 9; Length 105;
Best Local Similarity 100.0%; Pred. No. 1.9e-46;
Matches 86; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Db      1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy      61 CAPLKPAKSARSVRAQRHTDMPKTQK 86
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Db      61 CAPLKPAKSARSVRAQRHTDMPKTQK 86
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RESULT 6

US-10-251-661-8
; Sequence 8, Application US/10251661
; Publication No. US20030166555A1
; GENERAL INFORMATION:
; APPLICANT: Alberini, Cristina M.
; APPLICANT: Bear, Mark F.

Qy 61 CAPLKPAKSARSVRAQRHTDMPKTQK 86
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 Db 109 CAPLKPAKSARSVRAQRHTDMPKTQK 134

RESULT 8

US-10-136-639-3
 ; Sequence 3, Application US/10136639
 ; Publication No. US20030072761A1
 ; GENERAL INFORMATION:
 ; APPLICANT: LeBowitz, Jonathan
 ; TITLE OF INVENTION: METHODS AND COMPOSITIONS FOR TARGETING PROTEINS ACROSS
 THE BLOOD BRAIN
 ; TITLE OF INVENTION: BARRIER
 ; FILE REFERENCE: SYM-008
 ; CURRENT APPLICATION NUMBER: US/10/136,639
 ; CURRENT FILING DATE: 2002-09-06
 ; PRIOR APPLICATION NUMBER: US 60/329,650
 ; PRIOR FILING DATE: 2001-10-16
 ; NUMBER OF SEQ ID NOS: 4
 ; SOFTWARE: PatentIn version 3.0
 ; SEQ ID NO 3
 ; LENGTH: 153
 ; TYPE: PRT
 ; ORGANISM: Homo sapiens
 US-10-136-639-3

Query Match 78.3%; Score 468; DB 15; Length 153;
 Best Local Similarity 100.0%; Pred. No. 3e-46;
 Matches 86; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 60
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 Db 49 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 108
 Qy 61 CAPLKPAKSARSVRAQRHTDMPKTQK 86
 |||
 Db 109 CAPLKPAKSARSVRAQRHTDMPKTQK 134

RESULT 9

US-10-207-655-55
 ; Sequence 55, Application US/10207655
 ; Publication No. US20030118592A1
 ; GENERAL INFORMATION:
 ; APPLICANT: Ledbetter, Jeffrey A.
 ; APPLICANT: Hayden-Ledbetter, Martha S.
 ; TITLE OF INVENTION: BINDING DOMAIN-IMMUNOGLOBULIN FUSION PROTEINS
 ; FILE REFERENCE: 390069.401C1
 ; CURRENT APPLICATION NUMBER: US/10/207,655
 ; CURRENT FILING DATE: 2002-07-25
 ; NUMBER OF SEQ ID NOS: 426
 ; SOFTWARE: PatentIn version 3.0
 ; SEQ ID NO 55
 ; LENGTH: 153
 ; TYPE: PRT

; ORGANISM: Homo sapiens
US-10-207-655-55

Query Match 78.3%; Score 468; DB 15; Length 153;
Best Local Similarity 100.0%; Pred. No. 3e-46;
Matches 86; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Qy      61 CAPLKPAKSARSVRAQRHTDMPKTQK 86
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Db      109 CAPLKPAKSARSVRAQRHTDMPKTQK 134
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RESULT 10

US-09-852-261-14
; Sequence 14, Application US/09852261
; Patent No. US20020083477A1
; GENERAL INFORMATION:
; APPLICANT: GOLDSPIK, GEOFFREY
; APPLICANT: TERENCE, GIORGIO
; TITLE OF INVENTION: REPAIR OF NERVE DAMAGE
; FILE REFERENCE: 117-351
; CURRENT APPLICATION NUMBER: US/09/852,261
; CURRENT FILING DATE: 2001-05-10
; PRIOR APPLICATION NUMBER: GB 0011278.9
; PRIOR FILING DATE: 2000-05-10
; NUMBER OF SEQ ID NOS: 14
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 14
; LENGTH: 105
; TYPE: PRT
; ORGANISM: Oryctolagus cuniculus
US-09-852-261-14

Query Match 77.8%; Score 465; DB 9; Length 105;
Best Local Similarity 98.8%; Pred. No. 4.2e-46;
Matches 85; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

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Db      1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy      61 CAPLKPAKSARSVRAQRHTDMPKTQK 86
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Db      61 CAPLKPAKAARSVRAQRHTDMPKTQK 86
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RESULT 11

US-10-238-114-3
; Sequence 3, Application US/10238114
; Publication No. US20030100073A1
; GENERAL INFORMATION:
; APPLICANT: Merial
; APPLICANT: ANDREONI, Christine Michele

```
; TITLE OF INVENTION: IGF-1 AS FELINE VACCINE ADJUVANT, IN PARTICULAR AGAINST
FELINE RETROVIRUS (
; FILE REFERENCE: 454313-3165.1
; CURRENT APPLICATION NUMBER: US/10/238,114
; CURRENT FILING DATE: 2002-09-10
; PRIOR APPLICATION NUMBER: FR 01 11736
; PRIOR FILING DATE: 2001-09-11
; PRIOR APPLICATION NUMBER: US 60/318,666
; PRIOR FILING DATE: 2001-09-12
; NUMBER OF SEQ ID NOS: 20
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 3
; LENGTH: 105
; TYPE: PRT
; ORGANISM: Felis catus
US-10-238-114-3
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Query Match          77.4%; Score 463; DB 15; Length 105;
Best Local Similarity 98.8%; Pred. No. 7.1e-46;
Matches 85; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
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Qy      1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
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Db      1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy      61 CAPLKPAKSARSVRAQRHTDMPKTQK 86
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Db      61 CAPLKPAKSARSVRAQRHTDMPKAQK 86
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RESULT 12

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US-10-238-114-2
; Sequence 2, Application US/10238114
; Publication No. US20030100073A1
; GENERAL INFORMATION:
; APPLICANT: Merial
; APPLICANT: ANDREONI , Christine Michele
; TITLE OF INVENTION: IGF-1 AS FELINE VACCINE ADJUVANT, IN PARTICULAR AGAINST
FELINE RETROVIRUS
; FILE REFERENCE: 454313-3165.1
; CURRENT APPLICATION NUMBER: US/10/238,114
; CURRENT FILING DATE: 2002-09-10
; PRIOR APPLICATION NUMBER: FR 01 11736
; PRIOR FILING DATE: 2001-09-11
; PRIOR APPLICATION NUMBER: US 60/318,666
; PRIOR FILING DATE: 2001-09-12
; NUMBER OF SEQ ID NOS: 20
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 2
; LENGTH: 153
; TYPE: PRT
; ORGANISM: Felis catus
US-10-238-114-2
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Query Match          77.4%; Score 463; DB 15; Length 153;
Best Local Similarity 98.8%; Pred. No. 1.1e-45;
Matches 85; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
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Qy          61 CAPLKPAKSARSVRAQRHTDMPKTQK 86
            |||
Db          109 CAPLKPAKSARSVRAQRHTDMPKAQK 134

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RESULT 13

US-09-921-398-41

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; Sequence 41, Application US/09921398
; Patent No. US20020055169A1
;   GENERAL INFORMATION:
;     APPLICANT: Tekamp-Olson, Patricia
;     TITLE OF INVENTION: METHOD FOR EXPRESSION OF HETEROLOGOUS
;                          PROTEINS IN YEAST
;     NUMBER OF SEQUENCES: 41
;     CORRESPONDENCE ADDRESS:
;       ADDRESSEE: Bell Seltzer IP Group of Alston & Bird, LLP
;       STREET: 3605 Glenwood Ave. Suite 310
;       CITY: Raleigh
;       STATE: NC
;       COUNTRY: US
;       ZIP: 27622
;     COMPUTER READABLE FORM:
;       MEDIUM TYPE: Floppy disk
;       COMPUTER: IBM PC compatible
;       OPERATING SYSTEM: PC-DOS/MS-DOS
;       SOFTWARE: PatentIn Release #1.0, Version #1.30
;     CURRENT APPLICATION DATA:
;       APPLICATION NUMBER: US/09/921,398
;       FILING DATE: 02-Aug-2001
;       CLASSIFICATION: <Unknown>
;     ATTORNEY/AGENT INFORMATION:
;       NAME: Spruill, W. Murray
;       REGISTRATION NUMBER: 32,943
;       REFERENCE/DOCKET NUMBER: 5784-4
;     TELECOMMUNICATION INFORMATION:
;       TELEPHONE: 919 420 2202
;       TELEFAX: 919 881 3175
;   INFORMATION FOR SEQ ID NO: 41:
;     SEQUENCE CHARACTERISTICS:
;       LENGTH: 191 amino acids
;       TYPE: amino acid
;       TOPOLOGY: linear
;     MOLECULE TYPE: protein
;     SEQUENCE DESCRIPTION: SEQ ID NO: 41:

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US-09-921-398-41

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Query Match          76.5%;  Score 457.5;  DB 9;  Length 191;
Best Local Similarity 98.9%;  Pred. No. 6.3e-45;
Matches 86;  Conservative 0;  Mismatches 0;  Indels 1;  Gaps 1;

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Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
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Db 86 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSSRRAPQTGIVDECCFRSCDLRRLEMY 145

Qy 61 CAPLKPAKSA-RSVRAQRHTDMPKTQK 86
 |||

Db 146 CAPLKPAKSAKRSVRAQRHTDMPKTQK 172

RESULT 14

US-10-280-826-41

; Sequence 41, Application US/10280826

; Publication No. US20030077831A1

; GENERAL INFORMATION:

; APPLICANT: Tekamp-Olson, Patricia

; TITLE OF INVENTION: METHOD FOR EXPRESSION OF HETEROLOGOUS
 ; PROTEINS IN YEAST

; NUMBER OF SEQUENCES: 41

; CORRESPONDENCE ADDRESS:

; ADDRESSEE: Bell Seltzer IP Group of Alston & Bird, LLP

; STREET: 3605 Glenwood Ave. Suite 310

; CITY: Raleigh

; STATE: NC

; COUNTRY: US

; ZIP: 27622

; COMPUTER READABLE FORM:

; MEDIUM TYPE: Floppy disk

; COMPUTER: IBM PC compatible

; OPERATING SYSTEM: PC-DOS/MS-DOS

; SOFTWARE: PatentIn Release #1.0, Version #1.30

; CURRENT APPLICATION DATA:

; APPLICATION NUMBER: US/10/280,826

; FILING DATE: 25-Oct-2002

; CLASSIFICATION: <Unknown>

; PRIOR APPLICATION DATA:

; APPLICATION NUMBER: US/08/989,251

; FILING DATE: <Unknown>

; ATTORNEY/AGENT INFORMATION:

; NAME: Spruill, W. Murray

; REGISTRATION NUMBER: 32,943

; REFERENCE/DOCKET NUMBER: 5784-4

; TELECOMMUNICATION INFORMATION:

; TELEPHONE: 919 420 2202

; TELEFAX: 919 881 3175

; INFORMATION FOR SEQ ID NO: 41:

; SEQUENCE CHARACTERISTICS:

; LENGTH: 191 amino acids

; TYPE: amino acid

; TOPOLOGY: linear

; MOLECULE TYPE: protein

; SEQUENCE DESCRIPTION: SEQ ID NO: 41:

US-10-280-826-41

Query Match 76.5%; Score 457.5; DB 15; Length 191;

Best Local Similarity 98.9%; Pred. No. 6.3e-45;

Matches 86; Conservative 0; Mismatches 0; Indels 1; Gaps 1;

Qy 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
 |||

Db 86 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSSRRAPQTGIVDECCFRSCDLRRLEMY 145

Qy 61 CAPLKPAKSA-RSVRAQRHTDMPKTQK 86

||||||| |||||||||

Db 146 CAPLKPAKSAKRSVRAQRHTDMPKTQK 172

RESULT 15

US-09-852-261-12

; Sequence 12, Application US/09852261

; Patent No. US20020083477A1

; GENERAL INFORMATION:

; APPLICANT: GOLDSPINK, GEOFFREY

; APPLICANT: TERENGHI, GIORGIO

; TITLE OF INVENTION: REPAIR OF NERVE DAMAGE

; FILE REFERENCE: 117-351

; CURRENT APPLICATION NUMBER: US/09/852,261

; CURRENT FILING DATE: 2001-05-10

; PRIOR APPLICATION NUMBER: GB 0011278.9

; PRIOR FILING DATE: 2000-05-10

; NUMBER OF SEQ ID NOS: 14

; SOFTWARE: PatentIn Ver. 2.1

; SEQ ID NO 12

; LENGTH: 105

; TYPE: PRT

; ORGANISM: Rattus sp.

US-09-852-261-12

Query Match 70.7%; Score 423; DB 9; Length 105;

Best Local Similarity 90.7%; Pred. No. 3e-41;

Matches 78; Conservative 1; Mismatches 7; Indels 0; Gaps 0;

Qy 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSSRRAPQTGIVDECCFRSCDLRRLEMY 60

||||||| ||||||| ||| |||||||

Db 1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy 61 CAPLKPAKSARSVRAQRHTDMPKTQK 86

| || |||||:|||||||

Db 61 CVRCKPTKSARSIRAQRHTDMPKTQK 86

Search completed: December 12, 2003, 16:51:59

Job time : 25.8554 secs

GenCore version 5.1.6
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OM protein - protein search, using sw model

Run on: December 12, 2003, 16:34:01 ; Search time 28.494 Seconds
(without alignments)
996.203 Million cell updates/sec

Title: US-09-852-261-2
Perfect score: 598
Sequence: 1 GPETLCGAELVDALQFVCGD.....STNKNTKSQRRKGSTFEEHK 110

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 830525 seqs, 258052604 residues

Total number of hits satisfying chosen parameters: 830525

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : SPTREMBL_23:*
1: sp_archaea:*
2: sp_bacteria:*
3: sp_fungi:*
4: sp_human:*
5: sp_invertebrate:*
6: sp_mammal:*
7: sp_mhc:*
8: sp_organelle:*
9: sp_phage:*
10: sp_plant:*
11: sp_rodent:*
12: sp_virus:*
13: sp_vertibrate:*
14: sp_unclassified:*
15: sp_rvirus:*
16: sp_bacteriap:*
17: sp_archeap:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result	Query	
No.	Score	Match Length DB ID Description

1	590	98.7	139	4	Q13429	Q13429 homo sapien
2	486	81.3	165	11	Q8CAR0	Q8car0 mus musculu
3	468	78.3	130	4	Q9NP10	Q9np10 homo sapien
4	468	78.3	137	4	Q14620	Q14620 homo sapien
5	463	77.4	133	6	Q9N1C1	Q9n1c1 bos taurus
6	458	76.6	139	6	P79167	P79167 equus cabal
7	450	75.3	127	11	P97899	P97899 rattus sp.
8	447	74.7	153	11	Q8C4U6	Q8c4u6 mus musculu
9	422	70.6	153	13	O93380	O93380 meleagris g
10	403.5	67.5	161	13	Q91230	Q91230 oncorhynchu
11	401	67.1	145	13	Q91475	Q91475 salmo salar
12	401	67.1	155	13	Q91162	Q91162 oncorhynchu
13	401	67.1	188	13	P81268	P81268 oncorhynchu
14	401	67.1	188	13	Q91965	Q91965 oncorhynchu
15	399.5	66.8	178	13	Q9IBI0	Q9ibi0 cyprinus ca
16	399	66.7	116	13	Q91161	Q91161 oncorhynchu
17	399	66.7	149	13	Q91231	Q91231 oncorhynchu
18	392	65.6	117	13	Q91476	Q91476 salmo salar
19	390.5	65.3	161	13	Q90VV9	Q90vv9 brachydanio
20	382.5	64.0	117	13	Q9I9I4	Q9i9i4 ctenopharyn
21	381	63.7	161	13	Q9PWK2	Q9pwk2 carassius a
22	379.5	63.5	161	13	Q98SR6	Q98sr6 megalobrama
23	378	63.2	161	13	Q9YI82	Q9yi82 carassius a
24	377	63.0	185	13	O57436	O57436 paralichthy
25	377	63.0	186	13	O93527	O93527 paralichthy
26	376.5	63.0	159	13	O93607	O93607 paralichthy
27	376	62.9	182	13	O73720	O73720 oreochromis
28	376	62.9	182	13	O42289	O42289 oreochromis
29	376	62.9	182	13	P79824	P79824 oreochromis
30	370	61.9	186	13	Q9PSX5	Q9psx5 paralichthy
31	355.5	59.4	185	13	Q9YI57	Q9yi57 acanthopagr
32	355	59.4	66	6	Q9N1S6	Q9n1s6 capreolus c
33	351	58.7	184	13	O42336	O42336 myoxocephal
34	333.5	55.8	69	6	O02807	O02807 bubalus bub
35	302	50.5	57	6	Q28236	Q28236 cervus elap
36	298.5	49.9	126	13	Q91442	Q91442 squalus aca
37	278	46.5	62	13	Q9IAA0	Q9iaa0 carassius a
38	264	44.1	215	13	O73721	O73721 tilapia sp.
39	261	43.6	215	13	O42429	O42429 lates calca
40	256.5	42.9	207	13	Q90XD0	Q90xd0 cyprinus ca
41	255.5	42.7	187	13	O57687	O57687 taenopygia
42	250.5	41.9	217	13	Q90WW4	Q90ww4 xenopus lae
43	248.5	41.6	187	13	P79890	P79890 gallus gall
44	248.5	41.6	212	13	Q8JIE4	Q8jie4 brachydanio
45	247	41.3	132	13	Q8AV14	Q8av14 petromyzon

ALIGNMENTS

RESULT 1

Q13429

ID Q13429 PRELIMINARY; PRT; 139 AA.

AC Q13429;

DT 01-NOV-1996 (TrEMBLrel. 01, Created)

DT 01-NOV-1996 (TrEMBLrel. 01, Last sequence update)

DT 01-MAR-2003 (TrEMBLrel. 23, Last annotation update)

DE Insulin-like growth factor-I (Fragment).
 GN IGF-I.
 OS Homo sapiens (Human).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
 OX NCBI_TaxID=9606;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Liver;
 RX MEDLINE=95237119; PubMed=7720641;
 RA Chew S.L., Lavender P., Clark A.J., Ross R.J.;
 RT "An alternatively spliced human insulin-like growth factor-I
 RT transcript with hepatic tissue expression that diverts away from the
 RT mitogenic IBE1 peptide.";
 RL Endocrinology 136:1939-1944(1995).
 CC -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
 CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
 DR EMBL; U40870; AAA96152.1; -.
 DR HSSP; P01343; 2GF1.
 DR InterPro; IPR004825; Ins/IGF/relax.
 DR Pfam; PF00049; Insulin; 1.
 DR SMART; SM00078; IIGF; 1.
 DR PROSITE; PS00262; INSULIN; 1.
 FT NON TER 1 1
 SQ SEQUENCE 139 AA; 15611 MW; A62271872CA29DE4 CRC64;

Query Match 98.7%; Score 590; DB 4; Length 139;
 Best Local Similarity 99.1%; Pred. No. 1.4e-62;
 Matches 109; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 60
 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
 Db 30 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 89

 Qy 61 CAPLKPAKSARSVRAQRHTDMPKTQKYQPPSTNKNTKSQRRKGSTFEEHK 110
 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
 Db 90 CAPLKPAKSARSVRAQRHTDMPKTQKYQPPSTNKNTKSQRRKGSTFEERK 139

RESULT 2

Q8CAR0

ID Q8CAR0 PRELIMINARY; PRT; 165 AA.
 AC Q8CAR0;
 DT 01-MAR-2003 (TrEMBLrel. 23, Created)
 DT 01-MAR-2003 (TrEMBLrel. 23, Last sequence update)
 DT 01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
 DE Unknown EST.
 OS Mus musculus (Mouse).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
 OX NCBI_TaxID=10090;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC STRAIN=C57BL/6J; TISSUE=Thymus;
 RX MEDLINE=22354683; PubMed=12466851;
 RA The FANTOM Consortium,
 RA the RIKEN Genome Exploration Research Group Phase I & II Team;

RT "Analysis of the mouse transcriptome based on functional annotation of
RT 60,770 full-length cDNAs.";
RL Nature 420:563-573(2002).
DR EMBL; AK038119; BAC29934.1; -.
SO SEQUENCE 165 AA: 18473 MW: 2CE0D3DA981C93F8 CRC64:

QY 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 60

Ov 61 CAPLKPAKSARSVRAORHTDMPKTOKYOPPSTNKNTKSORRKGSTFEEH 109

Db 93 CAPLKPTKAARSIRAORHTDMPKTOKSPSLSTNKKTKLORRRBKGEPKTH 141

RESULT 3

```

ID      Q9NP10          PRELIMINARY;          PRT;    130 AA.
AC      Q9NP10;
DT      01-OCT-2000 (TrEMBLrel. 15, Created)
DT      01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
DT      01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
DE      IGF1 protein precursor.
GN      IGF1.
OS      Homo sapiens (Human).
OC      Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC      Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX      NCBI_TaxID=9606;
RN      [1]
RP      SEQUENCE FROM N.A.
RX      MEDLINE=88065102; PubMed=3683205;
RA      Rall L.B., Scott J., Bell G.I.;
RT      "Human insulin-like growth factor I and II messenger RNA: isolation of
RT      complementary DNA and analysis of expression.";
RL      Meth. Enzymol. 146:239-248(1987).
CC      -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC      -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR      EMBL; M29644; AAA52543.1; -.
DR      HSSP; P01343; 2GF1.
DR      InterPro; IPR004825; Ins/IGF/relax.
DR      Pfam; PF00049; Insulin; 1.
DR      PRINTS; PR00277; INSULINB.
DR      SMART; SM00078; IIGF; 1.
DR      PROSITE; PS00262; INSULIN; 1.
KW      Signal.
FT      SIGNAL          1          25          POTENTIAL.
FT      CHAIN           26          95          POTENTIAL.
SQ      SEQUENCE      130 AA;  14406 MW;  970FBAAECFA0352D CRC64;

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Qy      1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
      |||
Db      26 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSSRRAPQTGIVDECCFRSCDLRRLEMY 85

Qy      61 CAPLKPAKSARSVRAQRHTDMPKTQK 86
      |||
Db      86 CAPLKPAKSARSVRAQRHTDMPKTQK 111

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RESULT 4

Q14620

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ID      Q14620      PRELIMINARY;      PRT;      137 AA.
AC      Q14620;
DT      01-NOV-1996 (TrEMBLrel. 01, Created)
DT      01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
DT      01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
DE      Insulin-like growth factor I precursor.
GN      IGF1.
OS      Homo sapiens (Human).
OC      Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC      Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX      NCBI_TaxID=9606;
RN      [1]
RP      SEQUENCE FROM N.A.
RX      MEDLINE=91187000; PubMed=2082190;
RA      Tobin G., Yee D., Brunner N., Rotwein P.;
RT      "A novel human insulin-like growth factor I messenger RNA is expressed
RT      in normal and tumor cells.";
RL      Mol. Endocrinol. 4:1914-1920(1990).
CC      -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC      -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR      EMBL; M37484; AAA52789.1; -.
DR      HSSP; P01343; 2GF1.
DR      InterPro; IPR004825; Ins/IGF/relax.
DR      Pfam; PF00049; Insulin; 1.
DR      PRINTS; PR00277; INSULINB.
DR      SMART; SM00078; IIGF; 1.
DR      PROSITE; PS00262; INSULIN; 1.
KW      Signal.
FT      SIGNAL      1      32      POTENTIAL.
FT      CHAIN      33      137      INSULIN-LIKE GROWTH FACTOR I.
SQ      SEQUENCE      137 AA; 15177 MW; BFCC0D11E32AB75D CRC64;

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Query Match      78.3%; Score 468; DB 4; Length 137;
Best Local Similarity 100.0%; Pred. No. 5.3e-48;
Matches 86; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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```

Qy      1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
      |||
Db      33 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSSRRAPQTGIVDECCFRSCDLRRLEMY 92

Qy      61 CAPLKPAKSARSVRAQRHTDMPKTQK 86
      |||
Db      93 CAPLKPAKSARSVRAQRHTDMPKTQK 118

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RESULT 5

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Q9N1C1
ID   Q9N1C1                PRELIMINARY;          PRT;   133 AA.
AC   Q9N1C1;
DT   01-OCT-2000 (TrEMBLrel. 15, Created)
DT   01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
DT   01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
DE   Insulin-like growth factor I (Fragment).
GN   IGF1.
OS   Bos taurus (Bovine).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
OC   Bovidae; Bovinae; Bos.
OX   NCBI_TaxID=9913;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Lien S., Karlsen A., Klemetsdal G., Vage D.I., Olsaker I.,
RA   Klungland H., Aasland M., Heringstad B., Ruane J., Gomez-Raya L.;
RT   "A primary screen of the bovine genome for quantitative trait loci
RT   affecting twinning rate.";
RL   Submitted (DEC-1999) to the EMBL/GenBank/DBJ databases.
CC   -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC   -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR   EMBL; AF210387; AAF72409.1; -.
DR   EMBL; AF210385; AAF72409.1; JOINED.
DR   EMBL; AF210386; AAF72409.1; JOINED.
DR   HSSP; P01343; 2GF1.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IIGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
FT   NON_TER             1             1
SQ   SEQUENCE    133 AA;  14674 MW;  A6991DBC75C103B CRC64;

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Qy      1  GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY  60
      ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db      29  GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY  88

Qy      61  CAPLKPAKSARSVRAQRHTDMPKTQK  86
      |||||||||||||||||||||
Db      89  CAPLKPAKSARSVRAORHTDMPKAOK  114

```

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ID   P79167          PRELIMINARY;          PRT;    139 AA.
AC   P79167;
DT   01-MAY-1997 (TrEMBLrel. 03, Created)
DT   01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
DT   01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
DE   Insulin-like growth factor IB precursor (IGF-IB) (Somatomedin C)
DE   (Fragments).
GN   IGF1.

```

OS Equus caballus (Horse).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Perissodactyla; Equidae; Equus.
 OX NCBI_TaxID=9796;
 RN [1]
 RP SEQUENCE OF 1-122 FROM N.A.
 RC TISSUE=LIVER;
 RX MEDLINE=97013467; PubMed=8860303;
 RA Otte K., Rozell B., Gessbo A., Engstrom W.;
 RT "Cloning and sequencing of an equine insulin-like growth factor I cDNA
 RT and its expression in fetal and adult tissues.";
 RL Gen. Comp. Endocrinol. 102:11-15(1996).
 RN [2]
 RP SEQUENCE OF 123-139 FROM N.A.
 RA Nixon A.J., Toland B.D., Sandell L.J.;
 RL Submitted (JAN-1997) to the EMBL/GenBank/DDBJ databases.
 CC -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
 CC ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
 CC MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
 CC -!- SUBCELLULAR LOCATION: SECRETED.
 CC -!- ALTERNATIVE PRODUCTS: TWO ISOFORMS; ISOFORM IGF-IA (P51458) AND
 CC ISOFORM IGF-IB (SHOWN HERE); ARE PRODUCED BY ALTERNATIVE SPLICING
 CC (BY SIMILARITY).
 CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
 DR EMBL; U28070; AAA68952.1; -.
 DR EMBL; U85271; AAB47484.1; -.
 DR HSSP; P01343; 2GF1.
 DR InterPro; IPR004825; Ins/IGF/relax.
 DR PRINTS; PR00277; INSULINB.
 DR SMART; SM00078; IIGF; 1.
 DR PROSITE; PS00262; INSULIN; 1.
 KW Insulin family; Growth factor; Signal.
 FT SIGNAL 1 ?
 FT PROPEP ? 48 BY SIMILARITY.
 FT CHAIN 49 118 INSULIN-LIKE GROWTH FACTOR IB.
 FT DOMAIN 49 77 B.
 FT DOMAIN 78 89 C.
 FT DOMAIN 90 110 A.
 FT DOMAIN 111 118 D.
 FT PROPEP 119 >139 E PEPTIDE.
 FT NON_CONS 122 123
 FT DISULFID 54 96 BY SIMILARITY.
 FT DISULFID 66 109 BY SIMILARITY.
 FT DISULFID 95 100 BY SIMILARITY.
 FT NON_TER 139 139
 SQ SEQUENCE 139 AA; 15612 MW; CDC0E8F19C261A2C CRC64;

Query Match 76.6%; Score 458; DB 6; Length 139;
 Best Local Similarity 85.3%; Pred. No. 8.4e-47;
 Matches 87; Conservative 1; Mismatches 2; Indels 12; Gaps 1;

Qy 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 60
 |||
 Db 49 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 108
 Qy 61 CAPLKPASARSVRAQRHTDMPKTQKYQPPSTNKNKTSQRRK 102
 ||| ||| |||:

RESULT 7

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ID      P97899          PRELIMINARY;          PRT;    127 AA.
AC      P97899;
DT      01-MAY-1997 (TrEMBLrel. 03, Created)
DT      01-MAY-1997 (TrEMBLrel. 03, Last sequence update)
DT      01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
DE      Insulin-like growth factor I.
OS      Rattus sp.
OC      Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC      Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
OX      NCBI_TaxID=10118;
RN      [1]
RP      PARTIAL SEQUENCE FROM N.A.
RX      MEDLINE=87222423; PubMed=3034909;
RA      Shimatsu A., Rotwein P.;
RT      "Mosaic evolution of the insulin-like growth factors.";
RL      J. Biol. Chem. 262:7894-7900(1987).
RN      [2]
RP      SEQUENCE FROM N.A.
RX      MEDLINE=91103966; PubMed=1368571;
RA      Kato H., Okoshi A., Miura Y., Noguchi T.;
RT      "A new cDNA clone relating to larger molecular species of rat insulin-
RT      like growth factor-I mRNA.";
RL      Agric. Biol. Chem. 54:1599-1601(1990).
CC      -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC      -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR      EMBL; D00698; BAA00604.1; -.
DR      HSSP; P01343; 2GF1.
DR      InterPro; IPR004825; Ins/IGF/relax.
DR      Pfam; PF00049; Insulin; 1.
DR      PRINTS; PR00277; INSULINB.
DR      SMART; SM00078; IIGF; 1.
DR      PROSITE; PS00262; INSULIN; 1.
FT      CHAIN           23           92           POTENTIAL.
SQ      SEQUENCE      127 AA;  14106 MW;  104E126BCFCA5CB7 CRC64;

```

Qy 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
||||| |
Db 23 GPETLCGAELVDALQFVCGPRGFYFNKPTGYGSSIIRRAPQTGIVDECCFRSCDLRRLEMY 82

Qy 61 CAPLKPAKSARSVRAQRHTDMPKTQK 86
||| ||| : |||
Db 83 CAPLKPTKSARSIRAQRHTDMPKTOK 108

RESULT 8

ID Q8C4U6 PRELIMINARY; PRT; 153 AA.
AC O8C4U6;

DT 01-MAR-2003 (TrEMBLrel. 23, Created)
 DT 01-MAR-2003 (TrEMBLrel. 23, Last sequence update)
 DT 01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
 DE Unknown EST.
 OS Mus musculus (Mouse).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
 OX NCBI_TaxID=10090;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC STRAIN=C57BL/6J; TISSUE=Cerebellum;
 RX MEDLINE=22354683; PubMed=12466851;
 RA The FANTOM Consortium,
 RA the RIKEN Genome Exploration Research Group Phase I & II Team;
 RT "Analysis of the mouse transcriptome based on functional annotation of
 RT 60,770 full-length cDNAs."
 RL Nature 420:563-573(2002).
 DR EMBL; AK081019; BAC38117.1; -.
 SQ SEQUENCE 153 AA; 17093 MW; 967596AEAC0CA387 CRC64;

Query Match 74.7%; Score 447; DB 11; Length 153;
 Best Local Similarity 94.2%; Pred. No. 1.9e-45;
 Matches 81; Conservative 2; Mismatches 3; Indels 0; Gaps 0;

Qy 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 60
 |||||||||||||||| |||||||||||| ||||||||||||||||
 Db 49 GPETLCGAELVDALQFVCGPRGFYFNKPTGYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 108
 Qy 61 CAPLKPAKSARSVRAQRHTDMPKTQK 86
 ||||| |:|:|:|||||||
 Db 109 CAPLKPTKAARSIRAQRHTDMPKTQK 134

RESULT 9

093380

ID 093380 PRELIMINARY; PRT; 153 AA.
 AC 093380;
 DT 01-NOV-1998 (TrEMBLrel. 08, Created)
 DT 01-NOV-1998 (TrEMBLrel. 08, Last sequence update)
 DT 01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
 DE Insulin-like growth factor-I precursor.
 GN IGFI.
 OS Meleagris gallopavo (Common turkey).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Archosauria; Aves; Neognathae; Galliformes; Meleagrididae; Meleagris.
 OX NCBI_TaxID=9103;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC STRAIN=Big 6 ML Tom; TISSUE=Liver;
 RA Czerwinski S.M., Ashwell C.M., McMurtry J.P.;
 RT "Cloning of turkey insulin-like growth factor-I (IGF-I).";
 RL Submitted (JUN-1998) to the EMBL/GenBank/DDBJ databases.
 CC -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
 CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
 DR EMBL; AF074980; AAC26006.1; -.
 DR HSSP; P01343; 2GF1.
 DR InterPro; IPR004825; Ins/IGF/relax.

DR Pfam; PF00049; Insulin; 1.
DR PRINTS; PR00277; INSULINB.
DR SMART; SM00078; IIGF; 1.
DR PROSITE; PS00262; INSULIN; 1.
KW Signal.

FT SIGNAL 1 48 POTENTIAL.
FT CHAIN 49 118 INSULIN-LIKE GROWTH FACTOR-I.
SQ SEQUENCE 153 AA; 17295 MW; 5AF1E5B8D13C70B5 CRC64;

Query Match 70.6%; Score 422; DB 13; Length 153;
Best Local Similarity 89.5%; Pred. No. 1.9e-42;
Matches 77; Conservative 3; Mismatches 6; Indels 0; Gaps 0;

Qy 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 60
|||||:|||||
Db 49 GPETLCGAELVDALQFVCGDRGFYFSKPTGYGSSRRLLHHKGIVDECCFQSCDLRRLEMY 108

Qy 61 CAPLKPAKSARSVRAQRHTDMPKTQK 86
|||:| |||||
Db 109 CAPIKPPKSARSVRAQRHTDMPKAQK 134

RESULT 10

Q91230

ID Q91230 PRELIMINARY; PRT; 161 AA.
AC Q91230;
DT 01-NOV-1996 (TrEMBLrel. 01, Created)
DT 01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
DT 01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
DE Insulin-like growth factor-I.
GN IGF-I.
OS Oncorhynchus tshawytscha (Chinook salmon) (King salmon).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
OX NCBI_TaxID=74940;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=Big Qualicum River; TISSUE=Liver;
RX MEDLINE=93247592; PubMed=7683374;
RA Wallis A.E., Devlin R.H.;
RT "Duplicate insulin-like growth factor-I genes in salmon display
RT alternative splicing pathways.";
RL Mol. Endocrinol. 7:409-422(1993).
RN [2]
RP SEQUENCE FROM N.A.
RC STRAIN=Big Qualicum River; TISSUE=Liver;
RA Devlin R.H.;
RL Submitted (OCT-1994) to the EMBL/GenBank/DDBJ databases.
CC -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR EMBL; U15961; AAA67267.1; -.
DR HSSP; P01343; 2GF1.
DR InterPro; IPR004825; Ins/IGF/relax.
DR Pfam; PF00049; Insulin; 1.
DR PRINTS; PR00277; INSULINB.
DR SMART; SM00078; IIGF; 1.

DR PROSITE; PS00262; INSULIN; 1.

SQ SEQUENCE 161 AA; 17763 MW; A5A85D121377BF67 CRC64;

Query Match 67.5%; Score 403.5; DB 13; Length 161;

Best Local Similarity 72.0%; Pred. No. 3.2e-40;

Matches 77; Conservative 12; Mismatches 15; Indels 3; Gaps 2;

Qy 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRRAPQTGIVDECCFRSCDLRRLEMY 60

|||||:||||:||||: ||||: |||||:|:|||||

Db 45 GPETLCGAELVDTLQFVCGERGFYFSKPTGYGPSSRRSHNRGIVDECCFQSCELRRLEMY 104

Qy 61 CAPLKPAKSARSVRAQRHTDMPKTQKYQPPSTNKNT--KSQRRKGST 105

|||:| |:|||||:| |:| |:| |:| |:|

Db 105 CAPVKSGKAARSVRAQRHTDMPRTPK-KPLSGNSHTSCKEVHQKNSS 150

RESULT 11

Q91475

ID Q91475 PRELIMINARY; PRT; 145 AA.

AC Q91475;

DT 01-NOV-1996 (TrEMBLrel. 01, Created)

DT 01-NOV-1996 (TrEMBLrel. 01, Last sequence update)

DT 01-MAR-2003 (TrEMBLrel. 23, Last annotation update)

DE Insulin-like growth factor I precursor (Fragment).

OS Salmo salar (Atlantic salmon).

OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

OC Actinopterygii; Neopterygii; Teleostei; Euteleostei;

OC Protacanthopterygii; Salmoniformes; Salmonidae; Salmo.

OX NCBI_TaxID=8030;

RN [1]

RP SEQUENCE FROM N.A.

RC TISSUE=Liver;

RX MEDLINE=93024477; PubMed=1406698;

RA Duguay S.J., Park L.K., Samadpour M., Dickhoff W.W.;

RT "Nucleotide sequence and tissue distribution of three insulin-like

RT growth factor I prohormones in salmon.";

RL Mol. Endocrinol. 6:1202-1210(1992).

CC -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).

CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.

DR EMBL; M81904; AAA18211.1; -.

DR HSSP; P01343; 2GF1.

DR InterPro; IPR004825; Ins/IGF/relax.

DR Pfam; PF00049; Insulin; 1.

DR PRINTS; PR00277; INSULINB.

DR SMART; SM00078; IIGF; 1.

DR PROSITE; PS00262; INSULIN; 1.

KW Signal.

FT NON_TER 1 1

FT SIGNAL <1 18 POTENTIAL.

FT CHAIN 19 >88 INSULIN-LIKE GROWTH FACTOR I.

FT NON_TER 145 145

SQ SEQUENCE 145 AA; 15885 MW; 3D94EDF477268FC4 CRC64;

Query Match 67.1%; Score 401; DB 13; Length 145;

Best Local Similarity 72.3%; Pred. No. 5.7e-40;

Matches 73; Conservative 11; Mismatches 17; Indels 0; Gaps 0;

Qy 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
 |||||:||||:||||| ||||: |||||:|:|||||
 Db 19 GPETLCGAELVDTLQFVCGERGFYFSKPTGYGPSSRRSHNRGIVDECCFQSCELRRLEMY 78
 Qy 61 CAPLKPAKSARSVRAQRHTDMPKTQKYQPPSTNKNTKSQRR 101
 |||:| |:|||||:| | | : :||
 Db 79 CAPVKSGKAARSVRAQRHTDMPRTPKVSTAVQNVDRTERR 119

RESULT 12

Q91162

ID Q91162 PRELIMINARY; PRT; 155 AA.
 AC Q91162;
 DT 01-NOV-1996 (TrEMBLrel. 01, Created)
 DT 01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
 DT 01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
 DE Insulin-like growth factor I precursor (Fragment).
 OS Oncorhynchus kisutch (Coho salmon).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Actinopterygii; Neopterygii; Teleostei; Euteleostei;
 OC Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
 OX NCBI_TaxID=8019;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Liver;
 RX MEDLINE=90190659; PubMed=2628735;
 RA Cao Q.P, Duguay S.J, Plisetskaya E., Steiner D.F., Chan S.J.;
 RT "Nucleotide sequence and growth hormone regulated expression of salmon
 RT insulin-like growth factor I mRNA.";
 RL Mol. Endocrinol. 3:2005-2010(1989).
 RN [2]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Liver;
 RX MEDLINE=93024477; PubMed=1406698;
 RA Duguay S.J, Park L.K., Samadpour M., Dickhoff W.W.;
 RT "Nucleotide sequence and tissue distribution of three insulin-like
 RT growth factor I prohormones in salmon.";
 RL Mol. Endocrinol. 6:1202-1210(1992).
 CC -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
 CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
 DR EMBL; M81913; AAA49413.1; -.
 DR HSSP; P01343; 2GF1.
 DR InterPro; IPR004825; Ins/IGF/relax.
 DR Pfam; PF00049; Insulin; 1.
 DR SMART; SM00078; IIGF; 1.
 DR PROSITE; PS00262; INSULIN; 1.
 KW Signal.
 FT NON_TER 1 1
 FT SIGNAL <1 18 POTENTIAL.
 FT CHAIN 19 >88 INSULIN-LIKE GROWTH FACTOR I.
 FT CONFLICT 73 73 R -> X (IN REF. 1).
 FT NON_TER 155 155
 SQ SEQUENCE 155 AA; 16968 MW; 022FD3CA39CA3160 CRC64;

Query Match 67.1%; Score 401; DB 13; Length 155;
 Best Local Similarity 72.3%; Pred. No. 6.1e-40;
 Matches 73; Conservative 11; Mismatches 17; Indels 0; Gaps 0;

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Qy      1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
      |||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
Db      19 GPETLCGAELVDTLQFVCGERGFYFSKPTGYGPSSRRSHNRGIVDECCFQSCDLRRLEMY 78

Qy      61 CAPLKPAKSARSVRAQRHTDMPKTQKYQPPSTNKNTKSQRR 101
      |||:| | :|||||:|||||:| |      | :  ::||
Db      79 CAPVKSGKAARSVRAQRHTDMPRTPKVSTAVQNVDRTERR 119

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RESULT 13

P81268

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ID      P81268      PRELIMINARY;      PRT;      188 AA.
AC      P81268;
DT      01-AUG-1998 (TrEMBLrel. 07, Created)
DT      01-AUG-1998 (TrEMBLrel. 07, Last sequence update)
DT      01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
DE      Insulin-like growth factor I precursor.
GN      IGF-I.1.
OS      Oncorhynchus keta (Chum salmon).
OC      Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC      Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC      Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
OX      NCBI_TaxID=8018;
RN      [1]
RP      SEQUENCE FROM N.A.
RA      Kavsan V.M., Koval A.P., Grebenjuk V.A., Chan S.J., Steiner D.F.,
RA      Roberts C.T. Jr., Leroith D.;
RT      "Structure of the Chum Salmon Insulin-Like Growth Factor I Gene.";
RL      DNA Cell Biol. 11:729-737(1993).
RN      [2]
RP      SEQUENCE FROM N.A.
RX      MEDLINE=94296559; PubMed=8024699;
RA      Kavsan V.M., Grebenjuk V.A., Koval A.P., Skorokhod A.S.,
RA      Roberts C.T.Jr., Leroith D.;
RT      "Isolation of a second nonallelic insulin-like growth factor I gene
RT      from the salmon genome.";
RL      DNA Cell Biol. 13:555-559(1994).
RN      [3]
RP      SEQUENCE FROM N.A.
RX      MEDLINE=95032736;
RA      Koval A., Kulik V., Duguay S., Plisetskaya E., Adamo M.L.,
RA      Roberts C.T.Jr., Leroith D., Kavsan V.;
RT      "Characterization of a salmon insulin-like growth factor I promoter.";
RL      DNA Cell Biol. 13:1057-1062(1994).
RN      [4]
RP      SEQUENCE FROM N.A.
RA      Gebenjuk V.A., Skorokhod A.S., Anoprienko O.V., Koval A.P.;
RL      Submitted (MAY-1998) to the EMBL/GenBank/DDBJ databases.
CC      -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC      -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR      EMBL; AF063216; AAC18833.1; -.
DR      HSSP; P01343; 2GF1.
DR      InterPro; IPR004825; Ins/IGF/relax.
DR      Pfam; PF00049; Insulin; 1.
DR      PRINTS; PR00277; INSULINB.
DR      SMART; SM00078; IIGF; 1.

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DR PROSITE; PS00262; INSULIN; 1.

SQ SEQUENCE 188 AA; 20792 MW; F4CEB6D05E0F24B8 CRC64;

Query Match 67.1%; Score 401; DB 13; Length 188;

Best Local Similarity 72.3%; Pred. No. 7.6e-40;

Matches 73; Conservative 11; Mismatches 17; Indels 0; Gaps 0;

Qy 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 60
|||||:||||:||||| ||||: |||||:|:|||||
Db 45 GPETLCGAELVDTLQFVCGERGFYFSKPTGYGPSSRRSHNRGIVDECCFQSCELRRLEMY 104

Qy 61 CAPLKPAKSARSVRAQRHTDMPKTQKYQPPSTNKNTKSQRR 101
|||:| |:|||||:| | | : :||
Db 105 CAPVKSGKAARSVRAQRHTDMPRTPKISTAVQNVDRGTERR 145

RESULT 14

Q91965

ID Q91965 PRELIMINARY; PRT; 188 AA.

AC Q91965;

DT 01-NOV-1996 (TrEMBLrel. 01, Created)

DT 01-NOV-1996 (TrEMBLrel. 01, Last sequence update)

DT 01-MAR-2003 (TrEMBLrel. 23, Last annotation update)

DE Insulin-like growth factor-I.

GN IGF-I.

OS Oncorhynchus tshawytscha (Chinook salmon) (King salmon).

OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

OC Actinopterygii; Neopterygii; Teleostei; Euteleostei;

OC Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.

OX NCBI_TaxID=74940;

RN [1]

RP SEQUENCE FROM N.A.

RC TISSUE=Liver;

RX MEDLINE=93247592; PubMed=7683374;

RA Wallis A.E., Devlin R.H.;

RT "Duplicate insulin-like growth factor-I genes in salmon display
alternative splicing pathways.";

RL Mol. Endocrinol. 7:409-422(1993).

RN [2]

RP SEQUENCE FROM N.A.

RC TISSUE=Liver;

RA Devlin R.H.;

RL Submitted (OCT-1994) to the EMBL/GenBank/DDBJ databases.

RN [3]

RP SEQUENCE FROM N.A.

RC TISSUE=Liver;

RA Devlin R.H.;

RL Submitted (SEP-1994) to the EMBL/GenBank/DDBJ databases.

CC -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).

CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.

DR EMBL; U15960; AAA67266.1; -.

DR EMBL; U14536; AAA67263.1; -.

DR HSSP; P01343; 2GF1.

DR InterPro; IPR004825; Ins/IGF/relax.

DR Pfam; PF00049; Insulin; 1.

DR PRINTS; PR00277; INSULINB.

DR SMART; SM00078; IIGF; 1.

DR PROSITE; PS00262; INSULIN; 1.

SQ SEQUENCE 188 AA; 20782 MW; F4D705BA811024B8 CRC64;

Query Match 67.1%; Score 401; DB 13; Length 188;

Best Local Similarity 72.3%; Pred. No. 7.6e-40;

Matches 73; Conservative 11; Mismatches 17; Indels 0; Gaps 0;

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Qy      1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 60
          |||||:||||:||||| ||||: |||||:|:|||||
Db      45 GPETLCGAELVDTLQFVCGERGFYFSKPTGYGPSSRRSHNRGIVDECCFQSCELRRLEMY 104

Qy      61 CAPLKPAKSARSVRAQRHTDMPKTQKYQPPSTNKNTKSQRR 101
          |||:| |:|||||:| | | : :||
Db      105 CAPVKSGKAARSVRAQRHTDMPRTPKVSTAVQNVDRTERR 145
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RESULT 15

Q9IBI0

ID Q9IBI0 PRELIMINARY; PRT; 178 AA.

AC Q9IBI0;

DT 01-OCT-2000 (TrEMBLrel. 15, Created)

DT 01-OCT-2000 (TrEMBLrel. 15, Last sequence update)

DT 01-MAR-2003 (TrEMBLrel. 23, Last annotation update)

DE Insulin-like growth factor I subtype Ea2.

GN IGF-IEA2.

OS Cyprinus carpio (Common carp).

OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

OC Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Cypriniformes;

OC Cyprinidae; Cyprinus.

OX NCBI_TaxID=7962;

RN [1]

RP SEQUENCE FROM N.A.

RC TISSUE=Liver;

RX MEDLINE=96241923; PubMed=8680527;

RA Liang Y.H., Cheng C.H., Chan K.M.;

RT "Insulin-like growth factor IEa2 is the predominantly expressed form
of IGF in common carp (Cyprinus carpio).";

RL Mol. Mar. Biol. Biotechnol. 5:145-152(1996).

CC -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).

CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.

DR EMBL; S82374; AAB37702.2; -.

DR HSSP; P01343; 2GF1.

DR InterPro; IPR004825; Ins/IGF/relax.

DR Pfam; PF00049; Insulin; 1.

DR PRINTS; PR00277; INSULINB.

DR SMART; SM00078; IIGF; 1.

DR PROSITE; PS00262; INSULIN; 1.

SQ SEQUENCE 178 AA; 19687 MW; 7075A34FF379C459 CRC64;

Query Match 66.8%; Score 399.5; DB 13; Length 178;

Best Local Similarity 69.8%; Pred. No. 1.1e-39;

Matches 74; Conservative 13; Mismatches 18; Indels 1; Gaps 1;

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Qy      1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 60
          |||||:||||:||||| ||||: |||||:|:|||||
Db      62 GPETLCGAELVDTLQFVCGDRGFYFSKPTGYGPSSRRSHNRGIVDECCFQSCELRRLEMY 121
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Qy 61 CAPLKPAKSARSVRAQRHTDMPKT-QKYQPPSTNKNTKSQRRKGST 105
 | | | : | | | : | | | | | | | | | | | : | : | | : | | :
Db 122 CAPVKPGKTPRSVRAQRHTDSPRTAKKPLPGQSHSSYKEVHQKNSS 167

Search completed: December 12, 2003, 16:39:30
Job time : 30.494 secs

OM protein - protein search, using sw model

Run on: December 12, 2003, 16:33:21 ; Search time 7.62048 Seconds
(without alignments)
678.820 Million cell updates/sec

Title: US-09-852-261-2
Perfect score: 598
Sequence: 1 GPETLCGAELVDALQFVCGD.....STNKNTKSQRRKGSTFEEHK 110

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 127863 seqs, 47026705 residues

Total number of hits satisfying chosen parameters: 127863

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : SwissProt_41:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query		DB	ID	Description
		Match	Length			
1	572.5	95.7	143	1	IGF1_RABIT	Q95222 oryctolagus
2	560	93.6	195	1	IGFB_HUMAN	P05019 homo sapien
3	521.5	87.2	133	1	IGFB_MOUSE	P05018 mus musculu
4	494	82.6	181	1	IGFB_RAT	P08024 rattus norv
5	468	78.3	130	1	IGF1_CAVPO	P17647 cavia porce
6	468	78.3	153	1	IGFA_HUMAN	P01343 homo sapien
7	464.5	77.7	153	1	IGF1_PIG	P16545 sus scrofa
8	463	77.4	122	1	IGF1_CANFA	P33712 canis famil
9	463	77.4	154	1	IGF1_BOVIN	P07455 bos taurus
10	459	76.8	154	1	IGF1_CAPHI	P51457 capra hircu
11	455	76.1	154	1	IGF1_SHEEP	P10763 ovis aries
12	450	75.3	153	1	IGFA_RAT	P08025 rattus norv
13	447	74.7	127	1	IGFA_MOUSE	P05017 mus musculu
14	422	70.6	124	1	IGF1_COTJA	P51462 coturnix co
15	422	70.6	153	1	IGF1_CHICK	P18254 gallus gall
16	419.5	70.2	153	1	IGF1_XENLA	P16501 xenopus lae
17	414	69.2	81	1	IGF1_SUNMU	Q28933 suncus muri

18	403	67.4	122	1	IGF1_HORSE	P51458	equus cabal
19	401	67.1	176	1	IGF1_ONCKI	P17085	oncorhynchu
20	399.5	66.8	161	1	IGFB_CYPCA	Q90326	cyprinus ca
21	398	66.6	176	1	IGF1_ONCMY	Q02815	oncorhynchu
22	393.5	65.8	161	1	IGFA_CYPCA	Q90325	cyprinus ca
23	264.5	44.2	214	1	IGF2_ONCMY	Q02816	oncorhynchu
24	241	40.3	179	1	IGF2_SHEEP	P10764	ovis aries
25	235	39.3	128	1	IGF2_CAVPO	Q08279	cavia porce
26	235	39.3	155	1	IGF2_BOVIN	P07456	bos taurus
27	233	39.0	180	1	IGF2_MOUSE	P09535	mus musculu
28	232.5	38.9	129	1	IGF2_MUSVI	P41694	mustela vis
29	231	38.6	180	1	IGF2_HUMAN	P01344	homo sapien
30	229.5	38.4	180	1	IGF2_RAT	P01346	rattus norv
31	229	38.3	181	1	IGF2_HORSE	P51459	equus cabal
32	228	38.1	181	1	IGF2_PIG	P23695	sus scrofa
33	222	37.1	66	1	IGF2_CHICK	P33717	gallus gall
34	219.5	36.7	139	1	IGF_MYXGL	P22618	myxine glut
35	159.5	26.7	50	1	INS_MYOSC	P07453	myoxocephal
36	158.5	26.5	51	1	INS_GADCA	P01336	gadus calla
37	155.5	26.0	51	1	INS1_BATSP	P01337	batrachoidi
38	154	25.8	50	1	INS2_BATSP	P01338	batrachoidi
39	151	25.3	59	1	INS_HYDCO	P09536	hydrolagus
40	149	24.9	51	1	INS_CHIBR	P01327	chinchilla
41	149	24.9	51	1	INS_ZAODH	P12708	zaocys dhum
42	148	24.7	51	1	INS_ALLMI	P12703	alligator m
43	146.5	24.5	51	1	INS2_THUTH	P01339	thunnus thy
44	146	24.4	51	1	INS_ANSAN	P07454	anser anser
45	146	24.4	51	1	INS_CROAT	P01334	crotalus at

ALIGNMENTS

RESULT 1

IGF1_RABIT

ID IGF1_RABIT STANDARD; PRT; 143 AA.
AC Q95222; O18846;
DT 01-NOV-1997 (Rel. 35, Created)
DT 16-OCT-2001 (Rel. 40, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Insulin-like growth factor I precursor (IGF-I) (Somatomedin).
GN IGF1 OR IGF-1.
OS Oryctolagus cuniculus (Rabbit).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Lagomorpha; Leporidae; Oryctolagus.
OX NCBI_TaxID=9986;
RN [1]
RP SEQUENCE FROM N.A. (ISOFORM IGF-IA).
RC STRAIN=ZIKA;
RA Flekna G., Brem G., Mueller M.;
RL Submitted (NOV-1996) to the EMBL/GenBank/DDBJ databases.
RN [2]
RP SEQUENCE FROM N.A. (ISOFORM IGF-IB).
RC STRAIN=ZIKA; TISSUE=Liver;
RA Flekna G., Brem G., Mueller M.;
RL Submitted (SEP-1997) to the EMBL/GenBank/DDBJ databases.
CC -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,

```

CC      ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
CC      MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
CC      -!- SUBCELLULAR LOCATION: Secreted.
CC      -!- ALTERNATIVE PRODUCTS:
CC          Event=Alternative splicing; Named isoforms=2;
CC          Name=IGF-IB;
CC          IsoId=Q95222-1; Sequence=Displayed;
CC          Name=IGF-IA;
CC          IsoId=Q95222-2; Sequence=VSP_002705;
CC      -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
CC      -----
CC      This SWISS-PROT entry is copyright. It is produced through a collaboration
CC      between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC      the European Bioinformatics Institute. There are no restrictions on its
CC      use by non-profit institutions as long as its content is in no way
CC      modified and this statement is not removed. Usage by and for commercial
CC      entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC      or send an email to license@isb-sib.ch).
CC      -----
DR      EMBL; U75390; AAB48032.1; -.
DR      EMBL; AF022961; AAB80950.1; -.
DR      HSSP; P01343; IGF1.
DR      InterPro; IPR004825; Ins/IGF/relax.
DR      Pfam; PF00049; Insulin; 1.
DR      SMART; SM00078; IIGF; 1.
DR      PROSITE; PS00262; INSULIN; 1.
KW      Insulin family; Growth factor; Plasma; Signal; Alternative splicing.
FT      SIGNAL          1      32      POTENTIAL.
FT      CHAIN           33     102     INSULIN-LIKE GROWTH FACTOR I.
FT      PROPEP         103     143     E PEPTIDE.
FT      DOMAIN          33      61      B.
FT      DOMAIN          62      73      C.
FT      DOMAIN          74      94      A.
FT      DOMAIN          95     102     D.
FT      DISULFID        38      80      BY SIMILARITY.
FT      DISULFID        50      93      BY SIMILARITY.
FT      DISULFID        79      84      BY SIMILARITY.
FT      VARSPLIC        119     143     YQPPSTNKKMKSQRRRKGSTFEEHK -> EVHLKNTSRGSA
FT                                     GNKNYRM (in isoform IGF-IA).
FT                                     /FTId=VSP_002705.
SQ      SEQUENCE      143 AA;  16091 MW;  819AF577800A1B1A CRC64;

      Query Match          95.7%;  Score 572.5;  DB 1;  Length 143;
      Best Local Similarity 96.4%;  Pred. No. 7.3e-54;
      Matches 107;  Conservative 1;  Mismatches 2;  Indels 1;  Gaps 1;

Qy      1  GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
      ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db      33 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 92

Qy      61 CAPLKPAKSARSVRAQRHTDMPKTQKYQPPSTNKNKTSQ-RRKGSTFEEHK 110
      |||||:|||||||||||||||||||||| ||| |||||||||
Db      93 CAPLKPAKAARSVRAQRHTDMPKTQKYQPPSTNKKMKSQRRRKGSTFEEHK 143

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RESULT 2
IGFB_HUMAN

ID IGFB HUMAN STANDARD; PRT; 195 AA.
 AC P05019;
 DT 13-AUG-1987 (Rel. 05, Created)
 DT 13-AUG-1987 (Rel. 05, Last sequence update)
 DT 15-SEP-2003 (Rel. 42, Last annotation update)
 DE Insulin-like growth factor IB precursor (IGF-IB) (Somatomedin C).
 GN IGF1 OR IBP1.
 OS Homo sapiens (Human).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
 OX NCBI_TaxID=9606;
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=86168194; PubMed=2937782;
 RA Rotwein P., Pollock K.M., Didier D.K., Krivi G.G.;
 RT "Organization and sequence of the human insulin-like growth factor I
 RT gene. Alternative RNA processing produces two insulin-like growth
 RT factor I precursor peptides.";
 RL J. Biol. Chem. 261:4828-4832(1986).
 RN [2]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=86094355; PubMed=3455760;
 RA Rotwein P.;
 RT "Two insulin-like growth factor I messenger RNAs are expressed in
 RT human liver.";
 RL Proc. Natl. Acad. Sci. U.S.A. 83:77-81(1986).
 RN [3]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=86108862; PubMed=3002851;
 RA de Pagter-Holthuizen P., van Schaik F.M.A., Verduijn G.M.,
 RA van Ommen G.J.B., Bouma B.N., Jansen M., Sussenbach J.S.;
 RT "Organization of the human genes for insulin-like growth factors I
 RT and II.";
 RL FEBS Lett. 195:179-184(1986).
 RN [4]
 RP SEQUENCE OF 22-50 FROM N.A.
 RX MEDLINE=84295593; PubMed=6382022;
 RA Dull T.J., Gray A., Hayflick J.S., Ullrich A.;
 RT "Insulin-like growth factor II precursor gene organization in
 RT relation to insulin gene family.";
 RL Nature 310:777-781(1984).
 RN [5]
 RP SEQUENCE OF 49-118.
 RX MEDLINE=78130171; PubMed=632300;
 RA Rinderknecht E., Humbel R.E.;
 RT "The amino acid sequence of human insulin-like growth factor I and
 RT its structural homology with proinsulin.";
 RL J. Biol. Chem. 253:2769-2776(1978).
 RN [6]
 RP 3D-STRUCTURE MODELING.
 RX MEDLINE=83210259; PubMed=6189745;
 RA Blundell T.L., Bedarkar S., Humbel R.E.;
 RT "Tertiary structures, receptor binding, and antigenicity of
 RT insulinlike growth factors.";
 RL Fed. Proc. 42:2592-2597(1983).
 RN [7]
 RP STRUCTURE BY NMR.

RX MEDLINE=91242464; PubMed=2036417;
 RA Cooke R.M., Harvey T.S., Campbell I.D.;
 RT "Solution structure of human insulin-like growth factor 1: a nuclear
 RT magnetic resonance and restrained molecular dynamics study.";
 RL Biochemistry 30:5484-5491(1991).
 RN [8]
 RP STRUCTURE BY NMR.
 RX MEDLINE=92316903; PubMed=1319992;
 RA Sato A., Nishimura S., Ohkubo T., Kyogoku Y., Koyama S., Kobayashi M.,
 RA Yasuda T., Kobayashi Y.;
 RT "1H-NMR assignment and secondary structure of human insulin-like
 RT growth factor-I (IGF-I) in solution.";
 RL J. Biochem. 111:529-536(1992).
 RN [9]
 RP DISULFIDE BONDS.
 RX MEDLINE=89207850; PubMed=3242681;
 RA Raschdorf F., Dahinden R., Maerki W., Richter W.J., Merryweather J.P.;
 RT "Location of disulphide bonds in human insulin-like growth factors
 RT (IGFs) synthesized by recombinant DNA technology.";
 RL Biomed. Environ. Mass Spectrom. 16:3-8(1988).
 RN [10]
 RP VARIANT ASP-187.
 RX MEDLINE=99318093; PubMed=10391209;
 RA Cargill M., Altshuler D., Ireland J., Sklar P., Ardlie K., Patil N.,
 RA Shaw N., Lane C.R., Lim E.P., Kalyanaraman N., Nemesh J., Ziaugra L.,
 RA Friedland L., Rolfe A., Warrington J., Lipshutz R., Daley G.Q.,
 RA Lander E.S.;
 RT "Characterization of single-nucleotide polymorphisms in coding regions
 RT of human genes.";
 RL Nat. Genet. 22:231-238(1999).
 RN [11]
 RP ERRATUM.
 RA Cargill M., Altshuler D., Ireland J., Sklar P., Ardlie K., Patil N.,
 RA Shaw N., Lane C.R., Lim E.P., Kalyanaraman N., Nemesh J., Ziaugra L.,
 RA Friedland L., Rolfe A., Warrington J., Lipshutz R., Daley G.Q.,
 RA Lander E.S.;
 RL Nat. Genet. 23:373-373(1999).
 CC -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
 CC ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
 CC MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
 CC -!- SUBCELLULAR LOCATION: Secreted.
 CC -!- ALTERNATIVE PRODUCTS:
 CC Event=Alternative splicing; Named isoforms=2;
 CC Name=IGF-IB;
 CC IsoId=P05019-1; Sequence=Displayed;
 CC Name=IGF-IA;
 CC IsoId=P01343-1; Sequence=External;
 CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
 CC -----
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 CC -----

DR EMBL; M14155; AAA52537.1; -.
 DR EMBL; M12659; AAA52537.1; JOINED.
 DR EMBL; M14153; AAA52537.1; JOINED.
 DR EMBL; M14154; AAA52537.1; JOINED.
 DR EMBL; M11568; AAA52539.1; -.
 DR EMBL; X03563; CAA27250.1; ALT_SEQ.
 DR EMBL; X03420; CAA27152.1; -.
 DR EMBL; X03421; CAA27153.1; -.
 DR EMBL; X03422; CAA27154.1; -.
 DR PIR; A01611; IGHU1B.
 DR PDB; 1GF1; 15-OCT-94.
 DR PDB; 2GF1; 15-APR-93.
 DR PDB; 3GF1; 15-APR-93.
 DR PDB; 1BQT; 18-MAY-99.
 DR Genew; HGNC:5464; IGF1.
 DR MIM; 147440; -.
 DR MIM; 265850; -.
 DR GO; GO:0005159; F:insulin-like growth factor receptor binding. . .; TAS.
 DR GO; GO:0005180; F:peptide hormone; TAS.
 DR GO; GO:0006928; P:cell motility; TAS.
 DR GO; GO:0006260; P:DNA replication; TAS.
 DR GO; GO:0009441; P:glycolate metabolism; TAS.
 DR GO; GO:0007517; P:muscle development; TAS.
 DR GO; GO:0008284; P:positive regulation of cell proliferation; TAS.
 DR GO; GO:0007265; P:RAS protein signal transduction; TAS.
 DR GO; GO:0007165; P:signal transduction; TAS.
 DR GO; GO:0001501; P:skeletal development; TAS.
 DR InterPro; IPR004825; Ins/IGF/relax.
 DR Pfam; PF00049; Insulin; 1.
 DR SMART; SM00078; IIGF; 1.
 DR PROSITE; PS00262; INSULIN; 1.
 KW Insulin family; Growth factor; 3D-structure; Plasma;
 KW Alternative splicing; Signal; Polymorphism.
 FT SIGNAL 1 21 POTENTIAL.
 FT PROPEP 22 48
 FT CHAIN 49 118 INSULIN-LIKE GROWTH FACTOR IB.
 FT DOMAIN 49 77 B.
 FT DOMAIN 78 89 C.
 FT DOMAIN 90 110 A.
 FT DOMAIN 111 118 D.
 FT PROPEP 119 195 E PEPTIDE.
 FT DISULFID 54 96
 FT DISULFID 66 109
 FT DISULFID 95 100
 FT VARIANT 187 187 A -> D (IN dbSNP:6213).
 FT /FTId=VAR_013945.
 FT STRAND 51 51
 FT TURN 55 55
 FT HELIX 56 69
 FT TURN 87 88
 FT HELIX 91 95
 FT TURN 96 97
 FT STRAND 99 99
 FT HELIX 106 109
 SQ SEQUENCE 195 AA; 21841 MW; E88A8CFBD1CD1873 CRC64;

Query Match 93.6%; Score 560; DB 1; Length 195;

Best Local Similarity 100.0%; Pred. No. 2.2e-52;
Matches 103; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Qy      1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
        |||
Db      49 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSSRRAPQTGIVDECCFRSCDLRRLEMY 108

Qy      61 CAPLKPAKSARSVRAQRHTDMPKTQKYQPPSTNKNTKSQRRKG 103
        |||
Db      109 CAPLKPAKSARSVRAQRHTDMPKTQKYQPPSTNKNTKSQRRKG 151
```

RESULT 3

IGFB_MOUSE

ID IGFB_MOUSE STANDARD; PRT; 133 AA.
AC P05018;
DT 13-AUG-1987 (Rel. 05, Created)
DT 13-AUG-1987 (Rel. 05, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Insulin-like growth factor IB precursor (IGF-IB) (Somatomedin).
GN IGF1 OR IGF-1.
OS Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX NCBI_TaxID=10090;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Liver;
RX MEDLINE=87040760; PubMed=3774549;
RA Bell G.I., Stempien M.M., Fong N.M., Rall L.B.;
RT "Sequences of liver cDNAs encoding two different mouse insulin-like
RT growth factor I precursors."
RL Nucleic Acids Res. 14:7873-7882(1986).
CC -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
CC ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
CC MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- ALTERNATIVE PRODUCTS:
CC Event=Alternative splicing; Named isoforms=2;
CC Name=IGF-IB;
CC IsoId=P05018-1; Sequence=Displayed;
CC Name=IGF-IA;
CC IsoId=P05017-1; Sequence=External;
CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
CC -----
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CC -----
DR EMBL; X04482; CAA28170.1; -.
DR HSSP; P01343; IGF1.
DR MGD; MGI:96432; Igfl.
DR GO; GO:0009887; P:organogenesis; IMP.


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RL  Nucleic Acids Res. 15:7196-7196(1987).
RN  [3]
RP  SEQUENCE FROM N.A.
RX  MEDLINE=89127259; PubMed=3221878;
RA  Roberts C.T., Lasky S.R., Lowe W.L., Seaman W.T., Leroith D.;
RT  "Structure of the rat insulin-like growth factor II transcriptional
RT  unit: heterogeneous transcripts are generated from two promoters by
RT  use of multiple polyadenylation sites and differential ribonucleic
RT  acid splicing.";
RL  Mol. Endocrinol. 2:1115-1126(1988).
RN  [4]
RP  SEQUENCE OF 49-118.
RX  MEDLINE=89174609; PubMed=2538424;
RA  Tamura K., Kobayashi M., Ishii Y., Tamura T., Hashimoto K.,
RA  Nakamura S., Niwa M., Zapf J.;
RT  "Primary structure of rat insulin-like growth factor-I and its
RT  biological activities.";
RL  J. Biol. Chem. 264:5616-5621(1989).
CC  -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
CC  ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
CC  MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
CC  -!- SUBCELLULAR LOCATION: Secreted.
CC  -!- ALTERNATIVE PRODUCTS:
CC      Event=Alternative splicing; Named isoforms=2;
CC      Name=IGF-IB;
CC      IsoId=P08024-1; Sequence=Displayed;
CC      Name=IGF-IA;
CC      IsoId=P08025-1; Sequence=External;
CC  -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
CC  -----
CC  This SWISS-PROT entry is copyright. It is produced through a collaboration
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CC  or send an email to license@isb-sib.ch).
CC  -----
DR  EMBL; M15650; AAA41214.1; -.
DR  EMBL; M15647; AAA41214.1; JOINED.
DR  EMBL; M15648; AAA41214.1; JOINED.
DR  EMBL; M15649; AAA41214.1; JOINED.
DR  EMBL; X06107; CAA29480.1; ALT_SEQ.
DR  EMBL; M15480; AAA41385.1; ALT_SEQ.
DR  PIR; A27804; A27804.
DR  HSSP; P01343; IGF1.
DR  InterPro; IPR004825; Ins/IGF/relax.
DR  Pfam; PF00049; Insulin; 1.
DR  SMART; SM00078; IIGF; 1.
DR  PROSITE; PS00262; INSULIN; 1.
KW  Insulin family; Growth factor; Plasma; Alternative splicing; Signal.
FT  SIGNAL          1      ?
FT  PROPEP          ?      48
FT  CHAIN           49     118      INSULIN-LIKE GROWTH FACTOR IB.
FT  DOMAIN          49      77      B.
FT  DOMAIN          78      89      C.
FT  DOMAIN          90     110      A.

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FT DOMAIN 111 118 D.
 FT PROPEP 119 181 E PEPTIDE.
 FT DISULFID 54 96 BY SIMILARITY.
 FT DISULFID 66 109 BY SIMILARITY.
 FT DISULFID 95 100 BY SIMILARITY.
 FT CONFLICT 110 112 APL -> VRC (IN REF. 2).
 SQ SEQUENCE 181 AA; 20322 MW; 52BAB431875A1A06 CRC64;

Query Match 82.6%; Score 494; DB 1; Length 181;
 Best Local Similarity 84.4%; Pred. No. 2e-45;
 Matches 92; Conservative 4; Mismatches 13; Indels 0; Gaps 0;

Qy 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
 |||||||||||||||| |||||||||||||||| ||||||||||||||||
 Db 49 GPETLCGAELVDALQFVCGPRGFYFNKPTGYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 108
 Qy 61 CAPLKPAKSARSVRAQRHTDMPKTQKYQPPSTNKNTKSQRRKGSTFEEH 109
 ||||| |||||:|||||||||| || ||:| | |||: : |
 Db 109 CAPLKPTKSARSIRAQRHTDMPKTQKSQPLSTHKKRKLQRRRKGESKAH 157

RESULT 5

IGF1_CAVPO

ID IGF1_CAVPO STANDARD; PRT; 130 AA.
 AC P17647;
 DT 01-AUG-1990 (Rel. 15, Created)
 DT 01-AUG-1990 (Rel. 15, Last sequence update)
 DT 01-FEB-1994 (Rel. 28, Last annotation update)
 DE Insulin-like growth factor I precursor (IGF-I) (Somatomedin).
 GN IGF1.
 OS Cavia porcellus (Guinea pig).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Rodentia; Hystricognathi; Caviidae; Cavia.
 OX NCBI_TaxID=10141;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Pancreas;
 RX MEDLINE=90332447; PubMed=2377480;
 RA Bell G.I., Stempien M.M., Fong N.M., Scino S.;
 RT "Sequence of a cDNA encoding guinea pig IGF-I."
 RL Nucleic Acids Res. 18:4275-4275(1990).
 CC -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
 CC ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
 CC MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
 CC -!- SUBCELLULAR LOCATION: Secreted.
 CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
 CC -----
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 CC or send an email to license@isb-sib.ch).
 CC -----
 DR EMBL; X52951; CAA37127.1; -.
 DR HSSP; P01343; IGF1.

DR InterPro; IPR004825; Ins/IGF/relax.
 DR Pfam; PF00049; Insulin; 1.
 DR SMART; SM00078; IIGF; 1.
 DR PROSITE; PS00262; INSULIN; 1.
 KW Insulin family; Growth factor; Plasma; Signal.
 FT SIGNAL 1 25
 FT CHAIN 26 95 INSULIN-LIKE GROWTH FACTOR I.
 FT DOMAIN 26 54 B.
 FT DOMAIN 55 66 C.
 FT DOMAIN 67 87 A.
 FT DOMAIN 88 95 D.
 FT PROPEP 96 130 E PEPTIDE.
 FT DISULFID 31 73 BY SIMILARITY.
 FT DISULFID 43 86 BY SIMILARITY.
 FT DISULFID 72 77 BY SIMILARITY.
 SQ SEQUENCE 130 AA; 14342 MW; 251B20AEDC5729FF CRC64;

Query Match 78.3%; Score 468; DB 1; Length 130;
 Best Local Similarity 100.0%; Pred. No. 7.9e-43;
 Matches 86; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRAPQTGIVDECCFRSCDLRRLEMY 60
 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
 Db 26 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRAPQTGIVDECCFRSCDLRRLEMY 85
 Qy 61 CAPLKPAKSARSVRAQRHTDMPKTQK 86
 ||||||||||||||||||||
 Db 86 CAPLKPAKSARSVRAQRHTDMPKTQK 111

RESULT 6

IGFA_HUMAN
 ID IGFA_HUMAN STANDARD; PRT; 153 AA.
 AC P01343;
 DT 21-JUL-1986 (Rel. 01, Created)
 DT 13-AUG-1987 (Rel. 05, Last sequence update)
 DT 15-SEP-2003 (Rel. 42, Last annotation update)
 DE Insulin-like growth factor IA precursor (IGF-IA) (Somatomedin C).
 GN IGF1 OR IBP1.
 OS Homo sapiens (Human).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
 OX NCBI_TaxID=9606;
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=86168194; PubMed=2937782;
 RA Rotwein P., Pollock K.M., Didier D.K., Krivi G.G.;
 RT "Organization and sequence of the human insulin-like growth factor I
 RT gene. Alternative RNA processing produces two insulin-like growth
 RT factor I precursor peptides."
 RL J. Biol. Chem. 261:4828-4832(1986).
 RN [2]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=84068210; PubMed=6358902;
 RA Jansen M., van Schaik F.M.A., Ricker A.T., Bullock B., Woods D.E.,
 RA Gabbay K.H., Nussbaum A.L., Sussenbach J.S., van den Brande J.L.;
 RT "Sequence of cDNA encoding human insulin-like growth factor I

RT precursor.";
 RL Nature 306:609-611(1983).
 RN [3]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=86108910; PubMed=2935423;
 RA le Bouc Y., Dreyer D., Jaeger F., Binoux M., Sondermeyer P.;
 RT "Complete characterization of the human IGF-I nucleotide sequence
 RT isolated from a newly constructed adult liver cDNA library.";
 RL FEBS Lett. 196:108-112(1986).
 RN [4]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=86108862; PubMed=3002851;
 RA de Pagter-Holthuizen P., van Schaik F.M.A., Verduijn G.M.,
 RA van Ommen G.J.B., Bouma B.N., Jansen M., Sussenbach J.S.;
 RT "Organization of the human genes for insulin-like growth factors I
 RT and II.";
 RL FEBS Lett. 195:179-184(1986).
 RN [5]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Liver;
 RX MEDLINE=91207342; PubMed=2018498;
 RA Steenbergh P.H., Koonen-Reemst A.M.C.B., Cleutjens C.B.J.M.,
 RA Sussenbach J.S.;
 RT "Complete nucleotide sequence of the high molecular weight human
 RT IGF-I mRNA.";
 RL Biochem. Biophys. Res. Commun. 175:507-514(1991).
 RN [6]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Brain;
 RX MEDLINE=92186627; PubMed=1372070;
 RA Sandberg Nordqvist A.C., Stahlbom P.A., Lake M., Sara V.R.;
 RT "Characterization of two cDNAs encoding insulin-like growth factor 1
 RT (IGF-1) in the human fetal brain.";
 RL Brain Res. Mol. Brain Res. 12:275-277(1992).
 RN [7]
 RP SEQUENCE OF 24-50 AND 119-153 FROM N.A.
 RX MEDLINE=84295593; PubMed=6382022;
 RA Dull T.J., Gray A., Hayflick J.S., Ullrich A.;
 RT "Insulin-like growth factor II precursor gene organization in
 RT relation to insulin gene family.";
 RL Nature 310:777-781(1984).
 RN [8]
 RP SEQUENCE OF 49-118.
 RX MEDLINE=78130171; PubMed=632300;
 RA Rinderknecht E., Humbel R.E.;
 RT "The amino acid sequence of human insulin-like growth factor I and
 RT its structural homology with proinsulin.";
 RL J. Biol. Chem. 253:2769-2776(1978).
 RN [9]
 RP 3D-STRUCTURE MODELING.
 RX MEDLINE=83210259; PubMed=6189745;
 RA Blundell T.L., Bedarkar S., Humbel R.E.;
 RT "Tertiary structures, receptor binding, and antigenicity of
 RT insulinlike growth factors.";
 RL Fed. Proc. 42:2592-2597(1983).
 RN [10]
 RP STRUCTURE BY NMR.

RX MEDLINE=91242464; PubMed=2036417;
 RA Cooke R.M., Harvey T.S., Campbell I.D.;
 RT "Solution structure of human insulin-like growth factor 1: a nuclear
 RT magnetic resonance and restrained molecular dynamics study.";
 RL Biochemistry 30:5484-5491(1991).
 RN [11]
 RP STRUCTURE BY NMR.
 RX MEDLINE=92316903; PubMed=1319992;
 RA Sato A., Nishimura S., Ohkubo T., Kyogoku Y., Koyama S., Kobayashi M.,
 RA Yasuda T., Kobayashi Y.;
 RT "1H-NMR assignment and secondary structure of human insulin-like
 RT growth factor-I (IGF-I) in solution.";
 RL J. Biochem. 111:529-536(1992).
 RN [12]
 RP DISULFIDE BONDS.
 RX MEDLINE=89207850; PubMed=3242681;
 RA Raschdorf F., Dahinden R., Maerki W., Richter W.J., Merryweather J.P.;
 RT "Location of disulphide bonds in human insulin-like growth factors
 RT (IGFs) synthesized by recombinant DNA technology.";
 RL Biomed. Environ. Mass Spectrom. 16:3-8(1988).
 CC -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
 CC ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
 CC MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
 CC -!- SUBCELLULAR LOCATION: Secreted.
 CC -!- ALTERNATIVE PRODUCTS:
 CC Event=Alternative splicing; Named isoforms=2;
 CC Name=IGF-IA;
 CC IsoId=P01343-1; Sequence=Displayed;
 CC Name=IGF-IB;
 CC IsoId=P05019-1; Sequence=External;
 CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
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 CC -----
 DR EMBL; M14156; AAA52538.1; -.
 DR EMBL; M12659; AAA52538.1; JOINED.
 DR EMBL; M14153; AAA52538.1; JOINED.
 DR EMBL; M14154; AAA52538.1; JOINED.
 DR EMBL; X00173; CAA24998.1; -.
 DR EMBL; X03563; CAA27250.1; ALT_SEQ.
 DR EMBL; M27544; AAA52787.1; -.
 DR EMBL; X03420; CAA27152.1; -.
 DR EMBL; X03421; CAA27153.1; -.
 DR EMBL; X03422; CAA27154.1; -.
 DR EMBL; X57025; CAA40342.1; -.
 DR EMBL; X56773; CAA40092.1; -.
 DR PIR; A92581; IGHU1.
 DR PDB; 1GF1; 15-OCT-94.
 DR PDB; 2GF1; 15-APR-93.
 DR PDB; 3GF1; 15-APR-93.
 DR PDB; 1B9G; 23-FEB-99.

DR PDB; 1GZR; 02-OCT-02.
 DR PDB; 1GZY; 02-OCT-02.
 DR PDB; 1GZZ; 25-JUL-02.
 DR PDB; 1H02; 25-JUL-02.
 DR PDB; 1H59; 16-MAY-02.
 DR PDB; 1IMX; 03-OCT-01.
 DR Genew; HGNC:5464; IGF1.
 DR MIM; 147440; -.
 DR MIM; 265850; -.
 DR GO; GO:0005159; F:insulin-like growth factor receptor binding. . .; TAS.
 DR GO; GO:0005180; F:peptide hormone; TAS.
 DR GO; GO:0006928; P:cell motility; TAS.
 DR GO; GO:0006260; P:DNA replication; TAS.
 DR GO; GO:0009441; P:glycolate metabolism; TAS.
 DR GO; GO:0007517; P:muscle development; TAS.
 DR GO; GO:0008284; P:positive regulation of cell proliferation; TAS.
 DR GO; GO:0007265; P:RAS protein signal transduction; TAS.
 DR GO; GO:0007165; P:signal transduction; TAS.
 DR GO; GO:0001501; P:skeletal development; TAS.
 DR InterPro; IPR004825; Ins/IGF/relax.
 DR Pfam; PF00049; Insulin; 1.
 DR SMART; SM00078; IIGF; 1.
 DR PROSITE; PS00262; INSULIN; 1.
 KW Insulin family; Growth factor; Plasma; 3D-structure;
 KW Alternative splicing; Signal.
 FT SIGNAL 1 21 POTENTIAL.
 FT PROPEP 22 48
 FT CHAIN 49 118 INSULIN-LIKE GROWTH FACTOR IA.
 FT DOMAIN 49 77 B.
 FT DOMAIN 78 89 C.
 FT DOMAIN 90 110 A.
 FT DOMAIN 111 118 D.
 FT PROPEP 119 153 E PEPTIDE.
 FT DISULFID 54 96
 FT DISULFID 66 109
 FT DISULFID 95 100
 FT STRAND 51 51
 FT TURN 55 55
 FT HELIX 56 69
 FT TURN 87 88
 FT HELIX 91 95
 FT TURN 96 97
 FT STRAND 99 99
 FT HELIX 106 109
 SQ SEQUENCE 153 AA; 17026 MW; C6ECD92DCA9B37BC CRC64;

Query Match 78.3%; Score 468; DB 1; Length 153;
 Best Local Similarity 100.0%; Pred. No. 9.4e-43;
 Matches 86; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRAPQTGIVDECCFRSCDLRRLEMY 60
 Db 49 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRAPQTGIVDECCFRSCDLRRLEMY 108
 Qy 61 CAPLKPAKSARSVRAQRHTDMPKTQK 86
 Db 109 CAPLKPAKSARSVRAQRHTDMPKTQK 134

RESULT 7

IGF1_PIG

ID IGF1_PIG STANDARD; PRT; 153 AA.

AC P16545;

DT 01-AUG-1990 (Rel. 15, Created)

DT 01-AUG-1990 (Rel. 15, Last sequence update)

DT 30-MAY-2000 (Rel. 39, Last annotation update)

DE Insulin-like growth factor I precursor (IGF-I) (Somatomedin).

GN IGF1.

OS Sus scrofa (Pig).

OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

OC Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae; Sus.

OX NCBI_TaxID=9823;

RN [1]

RP SEQUENCE FROM N.A.

RX MEDLINE=90221822; PubMed=2326169;

RA Mueller M., Brem G.;

RT "Nucleotide sequence of porcine insulin-like growth factor. 1:5'

RT untranslated region, exons 1 and 2 and mRNA.";

RL Nucleic Acids Res. 18:364-364(1990).

RN [2]

RP SEQUENCE OF 20-153 FROM N.A.

RX MEDLINE=89096956; PubMed=3211153;

RA Tavakkol A., Simmen F.A., Simmen R.C.M.;

RT "Porcine insulin-like growth factor-I (pIGF-I): complementary

RT deoxyribonucleic acid cloning and uterine expression of messenger

RT ribonucleic acid encoding evolutionarily conserved IGF-I peptides.";

RL Mol. Endocrinol. 2:674-681(1988).

RN [3]

RP SEQUENCE OF 1-21 FROM N.A.

RC STRAIN=White Landrace; TISSUE=Liver;

RX MEDLINE=94128209; PubMed=8297476;

RA Weller P.A., Dickson M.C., Huskisson N.S., Dauncey M.J., Buttery P.J.,

RA Gilmour R.S.;

RT "The porcine insulin-like growth factor-I gene: characterization and

RT expression of alternate transcription sites.";

RL J. Mol. Endocrinol. 11:201-211(1993).

CC -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,

CC ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A

CC MUCH HIGHER GROWTH-PROMOTING ACTIVITY.

CC -!- SUBCELLULAR LOCATION: Secreted.

CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.

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DR EMBL; X17492; CAA35527.1; -.

DR EMBL; X52388; CAA36617.1; -.

DR EMBL; X52077; CAA36296.1; -.

DR EMBL; M31175; AAA31043.1; ALT_INIT.

DR EMBL; X17638; CAA35632.1; -.
 DR PIR; S12825; S12825.
 DR HSSP; P01343; IGF1.
 DR InterPro; IPR004825; Ins/IGF/relax.
 DR Pfam; PF00049; Insulin; 1.
 DR SMART; SM00078; IIGF; 1.
 DR PROSITE; PS00262; INSULIN; 1.
 KW Insulin family; Growth factor; Plasma; Signal.
 FT SIGNAL 1 ?
 FT PROPEP ? 48
 FT CHAIN 49 118 INSULIN-LIKE GROWTH FACTOR I.
 FT DOMAIN 49 77 B.
 FT DOMAIN 78 89 C.
 FT DOMAIN 90 110 A.
 FT DOMAIN 111 118 D.
 FT PROPEP 119 153 E PEPTIDE.
 FT DISULFID 54 96 BY SIMILARITY.
 FT DISULFID 66 109 BY SIMILARITY.
 FT DISULFID 95 100 BY SIMILARITY.
 SQ SEQUENCE 153 AA; 17010 MW; 6098792DCDA0CD7D CRC64;

Query Match 77.7%; Score 464.5; DB 1; Length 153;
 Best Local Similarity 87.3%; Pred. No. 2.2e-42;
 Matches 89; Conservative 1; Mismatches 5; Indels 7; Gaps 1;

Qy 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 60
 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
 Db 49 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 108

 Qy 61 CAPLKPAKSARSVRAQRHTDMPKTQK-----YQPPSTNKN 95
 ||||||||||||||||||||| : | |||
 Db 109 CAPLKPAKSARSVRAQRHTDMPKAQKEVHLKNTSRGSSGNKN 150

RESULT 8

IGF1_CANFA
 ID IGF1_CANFA STANDARD; PRT; 122 AA.
 AC P33712;
 DT 01-FEB-1994 (Rel. 28, Created)
 DT 01-FEB-1994 (Rel. 28, Last sequence update)
 DT 01-NOV-1997 (Rel. 35, Last annotation update)
 DE Insulin-like growth factor I precursor (IGF-I) (Somatomedin)
 DE (Fragment).
 GN IGF1 OR IGFIA.
 OS Canis familiaris (Dog).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Carnivora; Fissipedia; Canidae; Canis.
 OX NCBI_TaxID=9615;
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=93366192; PubMed=8359700;
 RA Delafontaine P., Lou H., Harrison D.G., Bernstein K.E.;
 RT "Sequence of a cDNA encoding dog insulin-like growth factor I."
 RL Gene 130:305-306(1993).
 CC -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
 CC ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
 CC MUCH HIGHER GROWTH-PROMOTING ACTIVITY.

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CC  -!- SUBCELLULAR LOCATION: Secreted.
CC  -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
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CC  entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC  or send an email to license@isb-sib.ch).
CC  -----
DR  EMBL; L08254; -; NOT_ANNOTATED_CDS.
DR  PIR; PN0622; PN0622.
DR  HSSP; P01343; IGF1.
DR  InterPro; IPR004825; Ins/IGF/relax.
DR  Pfam; PF00049; Insulin; 1.
DR  SMART; SM00078; IIGF; 1.
DR  PROSITE; PS00262; INSULIN; 1.
KW  Insulin family; Growth factor; Plasma; Signal.
FT  NON_TER      1      1
FT  SIGNAL        <1    19      BY SIMILARITY.
FT  CHAIN         20    89      INSULIN-LIKE GROWTH FACTOR I.
FT  DOMAIN        20    48      B.
FT  DOMAIN        49    60      C.
FT  DOMAIN        61    81      A.
FT  DOMAIN        82    89      D.
FT  PROPEP        90   122     E PEPTIDE.
FT  DISULFID      25    67      BY SIMILARITY.
FT  DISULFID      37    80      BY SIMILARITY.
FT  DISULFID      66    71      BY SIMILARITY.
SQ  SEQUENCE     122 AA;  13407 MW;  036A004DC44E7D75 CRC64;

  Query Match              77.4%;  Score 463;  DB 1;  Length 122;
  Best Local Similarity    98.8%;  Pred. No. 2.5e-42;
  Matches 85;  Conservative 0;  Mismatches 1;  Indels 0;  Gaps 0;

Qy      1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
      |||
Db      20 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 79

Qy      61 CAPLKPAKSARSVRAQRHTDMPKTQK 86
      |||
Db      80 CAPLKPAKSARSVRAQRHTDMPKAQK 105

```

RESULT 9

IGF1_BOVIN

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ID  IGF1_BOVIN      STANDARD;      PRT;   154 AA.
AC  P07455;
DT  01-APR-1988 (Rel. 07, Created)
DT  01-NOV-1991 (Rel. 20, Last sequence update)
DT  01-OCT-1996 (Rel. 34, Last annotation update)
DE  Insulin-like growth factor I precursor (IGF-I) (Somatomedin).
GN  IGF1.
OS  Bos taurus (Bovine).
OC  Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC  Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;

```

OC Bovidae; Bovinae; Bos.
 OX NCBI_TaxID=9913;
 RN [1]
 RP SEQUENCE OF 2-154 FROM N.A.
 RX MEDLINE=90175014; PubMed=2308858;
 RA Fotsis T., Murphy C., Gannon F.;
 RT "Nucleotide sequence of the bovine insulin-like growth factor 1
 RT (IGF-1) and its IGF-1A precursor.";
 RL Nucleic Acids Res. 18:676-676(1990).
 RN [2]
 RP SEQUENCE OF 50-119 FROM N.A.
 RX MEDLINE=95172127; PubMed=7867698;
 RA Schmidt A., Einspanier R., Amselgruber W., Sinowatz F., Schams D.;
 RT "Expression of insulin-like growth factor 1 (IGF-1) in the bovine
 RT oviduct during the oestrous cycle.";
 RL Exp. Clin. Endocrinol. 102:364-369(1994).
 RN [3]
 RP SEQUENCE OF 50-119.
 RX MEDLINE=86085881; PubMed=3941093;
 RA Honegger A., Humbel R.E.;
 RT "Insulin-like growth factors I and II in fetal and adult bovine
 RT serum. Purification, primary structures, and immunological
 RT cross-reactivities.";
 RL J. Biol. Chem. 261:569-575(1986).
 RN [4]
 RP SEQUENCE OF 50-119.
 RX MEDLINE=88268820; PubMed=3390164;
 RA Francis G.L., Upton F.M., Ballard F.J., McNeil K.A., Wallace J.C.;
 RT "Insulin-like growth factors 1 and 2 in bovine colostrum. Sequences
 RT and biological activities compared with those of a potent truncated
 RT form.";
 RL Biochem. J. 251:95-103(1988).
 CC -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
 CC ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
 CC MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
 CC -!- SUBCELLULAR LOCATION: Secreted.
 CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
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 CC -----
 DR EMBL; X15726; CAA33746.1; -.
 DR EMBL; S76122; AAD14209.1; -.
 DR PIR; S12672; IGB01.
 DR HSSP; P01343; IGF1.
 DR InterPro; IPR004825; Ins/IGF/relax.
 DR Pfam; PF00049; Insulin; 1.
 DR SMART; SM00078; IIGF; 1.
 DR PROSITE; PS00262; INSULIN; 1.
 KW Insulin family; Growth factor; Plasma; Signal.
 FT SIGNAL 1 ?
 FT PROPEP ? 49

FT CHAIN 50 119 INSULIN-LIKE GROWTH FACTOR I.
 FT DOMAIN 50 78 B.
 FT DOMAIN 79 90 C.
 FT DOMAIN 91 111 A.
 FT DOMAIN 112 119 D.
 FT PROPEP 120 154 E PEPTIDE.
 FT DISULFID 55 97 BY SIMILARITY.
 FT DISULFID 67 110 BY SIMILARITY.
 FT DISULFID 96 101 BY SIMILARITY.
 SQ SEQUENCE 154 AA; 17066 MW; 64201B6AF3140999 CRC64;

Query Match 77.4%; Score 463; DB 1; Length 154;
 Best Local Similarity 98.8%; Pred. No. 3.2e-42;
 Matches 85; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 60
 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
 Db 50 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 109

 Qy 61 CAPLKPAKSARSVRAQRHTDMPKTQK 86
 |||||||||||||||||||||
 Db 110 CAPLKPAKSARSVRAQRHTDMPKAQK 135

RESULT 10

IGF1_CAPHI

ID IGF1_CAPHI STANDARD; PRT; 154 AA.
 AC P51457;
 DT 01-OCT-1996 (Rel. 34, Created)
 DT 16-OCT-2001 (Rel. 40, Last sequence update)
 DT 16-OCT-2001 (Rel. 40, Last annotation update)
 DE Insulin-like growth factor I precursor (IGF-I) (Somatomedin).
 GN IGF1.
 OS Capra hircus (Goat).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
 OC Bovidae; Caprinae; Capra.
 OX NCBI_TaxID=9925;
 RN [1]
 RP SEQUENCE FROM N.A., AND TISSUE SPECIFICITY.
 RC STRAIN=Shiba; TISSUE=Liver;
 RX MEDLINE=95290780; PubMed=7772848;
 RA Mikawa S., Yoshikawa G.-I., Yamano Y., Sakai H., Komano T., Hosoi Y.,
 RA Utsumi K.;
 RT "Tissue- and development-specific expression of goat insulin-like
 RT growth factor-I (IGF-I) mRNAs."
 RL Biosci. Biotechnol. Biochem. 59:759-761(1995).
 CC -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
 CC ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
 CC MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
 CC -!- SUBCELLULAR LOCATION: Secreted.
 CC -!- TISSUE SPECIFICITY: EXPRESSED IN ALL TISSUES EXAMINED: BRAIN,
 CC LUNG, LIVER, SPLEEN, UTERUS, OVARY, TESTIS, HEART AND SKELETAL
 CC MUSCLE.
 CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
 CC -----
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DR EMBL; D26116; BAA05112.1; ALT_TERM.
 DR EMBL; D26117; BAA05113.1; -.
 DR EMBL; D26118; BAA05114.1; -.
 DR EMBL; D26119; BAA05115.1; -.
 DR EMBL; D11378; BAA01976.1; -.
 DR PIR; JC2483; JC2483.
 DR HSSP; P01343; IGF1.
 DR InterPro; IPR004825; Ins/IGF/relax.
 DR Pfam; PF00049; Insulin; 1.
 DR SMART; SM00078; IIGF; 1.
 DR PROSITE; PS00262; INSULIN; 1.
 KW Insulin family; Growth factor; Plasma; Signal.
 FT SIGNAL 1 ?
 FT PROPEP ? 49 BY SIMILARITY.
 FT CHAIN 50 119 INSULIN-LIKE GROWTH FACTOR I.
 FT DOMAIN 50 78 B.
 FT DOMAIN 79 90 C.
 FT DOMAIN 91 111 A.
 FT DOMAIN 112 119 D.
 FT PROPEP 120 154 E PEPTIDE.
 FT DISULFID 55 97 BY SIMILARITY.
 FT DISULFID 67 110 BY SIMILARITY.
 FT DISULFID 96 101 BY SIMILARITY.
 SQ SEQUENCE 154 AA; 17082 MW; 07238B6AF3068422 CRC64;

Query Match 76.8%; Score 459; DB 1; Length 154;
 Best Local Similarity 97.7%; Pred. No. 8.6e-42;
 Matches 84; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

Qy 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 60
 |||
 Db 50 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 109
 Qy 61 CAPLKPAKSARSVRAQRHTDMPKTQK 86
 |||||
 Db 110 CAPLKPTKSARSVRAQRHTDMPKAQK 135

RESULT 11

IGF1_SHEEP

ID IGF1_SHEEP STANDARD; PRT; 154 AA.
 AC P10763;
 DT 01-JUL-1989 (Rel. 11, Created)
 DT 01-FEB-1991 (Rel. 17, Last sequence update)
 DT 28-FEB-2003 (Rel. 41, Last annotation update)
 DE Insulin-like growth factor I precursor (IGF-I) (Somatomedin).
 GN IGF1.
 OS Ovis aries (Sheep).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;

OC Bovidae; Caprinae; Ovis.
 OX NCBI_TaxID=9940;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Liver;
 RX MEDLINE=90126234; PubMed=2575490;
 RA Wong E.A., Ohlsen S.M., Godfredson J.A., Dean D.M., Wheaton J.E.;
 RT "Cloning of ovine insulin-like growth factor-I cDNAs: heterogeneity
 RT in the mRNA population.";
 RL DNA 8:649-657(1989).
 RN [2]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Liver;
 RX MEDLINE=91197361; PubMed=2015053;
 RA Dickson M.C., Saunders J.C., Gilmour R.S.;
 RT "The ovine insulin-like growth factor-I gene: characterization,
 RT expression and identification of a putative promoter.";
 RL J. Mol. Endocrinol. 6:17-31(1991).
 RN [3]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Liver;
 RX MEDLINE=93221682; PubMed=8466647;
 RA Ohlsen S.M., Dean D.M., Wong E.A.;
 RT "Characterization of multiple transcription initiation sites of the
 RT ovine insulin-like growth factor-I gene and expression profiles of
 RT three alternatively spliced transcripts.";
 RL DNA Cell Biol. 12:243-251(1993).
 RN [4]
 RP SEQUENCE OF 55-135 FROM N.A.
 RC STRAIN=Coopworth; TISSUE=Liver;
 RX MEDLINE=93250051; PubMed=8485157;
 RA Demmer J., Hill D.F., Petersen G.B.;
 RT "Characterization of two sheep insulin-like growth factor II cDNAs
 RT with different 5'-untranslated regions.";
 RL Biochim. Biophys. Acta 1173:79-80(1993).
 RN [5]
 RP SEQUENCE OF 50-119.
 RX MEDLINE=89136887; PubMed=2537174;
 RA Francis G.L., McNeil K.A., Wallace J.C., Ballard F.J., Owens P.C.;
 RT "Sheep insulin-like growth factors I and II: sequences, activities
 RT and assays.";
 RL Endocrinology 124:1173-1183(1989).
 RN [6]
 RP SEQUENCE OF 50-79.
 RX MEDLINE=89323215; PubMed=2752053;
 RA Hey A.W., Browne C.A., Simpson R.J., Thorburn G.D.;
 RT "Simultaneous isolation of insulin-like growth factors I and II from
 RT adult sheep serum.";
 RL Biochim. Biophys. Acta 997:27-35(1989).
 CC -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
 CC ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
 CC MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
 CC -!- SUBCELLULAR LOCATION: Secreted.
 CC -!- ALTERNATIVE PRODUCTS:
 CC Event=Alternative splicing; Named isoforms=3;
 CC Name=B;
 CC IsoId=P10763-1; Sequence=Displayed;

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CC      Name=A;
CC      IsoId=P10763-2; Sequence=VSP_002707;
CC      Name=C;
CC      IsoId=P10763-3; Sequence=VSP_002706;
CC      -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
CC      -----
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CC      or send an email to license@isb-sib.ch).
CC      -----
DR      EMBL; M30653; AAA80532.1; -.
DR      EMBL; M30653; AAA80533.1; -.
DR      EMBL; M31734; AAA80535.1; -.
DR      EMBL; M31734; AAA80534.1; -.
DR      EMBL; M31736; AAA31545.1; -.
DR      EMBL; M31735; AAA31546.1; -.
DR      EMBL; M31735; AAA31547.1; -.
DR      EMBL; X69472; CAA49230.1; -.
DR      EMBL; X69473; CAA49230.1; JOINED.
DR      EMBL; X69474; CAA49230.1; JOINED.
DR      EMBL; X69475; CAA49230.1; JOINED.
DR      EMBL; X69472; CAA49231.1; -.
DR      EMBL; X69473; CAA49231.1; JOINED.
DR      EMBL; X69474; CAA49231.1; JOINED.
DR      EMBL; X69475; CAA49231.1; JOINED.
DR      EMBL; X69473; CAA49232.1; -.
DR      EMBL; X69474; CAA49232.1; JOINED.
DR      EMBL; X69475; CAA49232.1; JOINED.
DR      EMBL; M89787; AAA31544.1; -.
DR      PIR; S22877; A33390.
DR      HSSP; P01343; IGF1.
DR      InterPro; IPR004825; Ins/IGF/relax.
DR      Pfam; PF00049; Insulin; 1.
DR      SMART; SM00078; IIGF; 1.
DR      PROSITE; PS00262; INSULIN; 1.
KW      Insulin family; Growth factor; Plasma; Signal; Alternative splicing.
FT      SIGNAL      1      ?
FT      PROPEP      ?      49
FT      CHAIN      50      119      INSULIN-LIKE GROWTH FACTOR I.
FT      DOMAIN      50      78      B.
FT      DOMAIN      79      90      C.
FT      DOMAIN      91      111     A.
FT      DOMAIN      112     119     D.
FT      PROPEP      120     154     E PEPTIDE.
FT      DISULFID      55      97      BY SIMILARITY.
FT      DISULFID      67      110     BY SIMILARITY.
FT      DISULFID      96      101     BY SIMILARITY.
FT      VARSPLIC      1      21      MGKISSLPTQLFKCCFCDFLK -> MVTPT (in
FT                                     isoform C).
FT                                     /FTId=VSP_002706.
FT      VARSPLIC      1      34      Missing (in isoform A).
FT                                     /FTId=VSP_002707.
FT      CONFLICT      57      57      A -> V (IN REF. 4).

```

SQ SEQUENCE 154 AA; 17012 MW; E226CE6AF653CF3F CRC64;

Query Match 76.1%; Score 455; DB 1; Length 154;
Best Local Similarity 97.7%; Pred. No. 2.3e-41;
Matches 84; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

```
Qy      1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 60
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db      50 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 109

Qy      61 CAPLKPAKSARSVRAQRHTDMPKTQK 86
          ||||| |||||||||||||||| ||
Db     110 CAPLKAASARSVRAQRHTDMPKAQK 135
```

RESULT 12

IGFA_RAT

ID IGFA_RAT STANDARD; PRT; 153 AA.
AC P08025;
DT 01-AUG-1988 (Rel. 08, Created)
DT 01-FEB-1991 (Rel. 17, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Insulin-like growth factor IA precursor (IGF-IA) (Somatomedin).
GN IGF1 OR IGF-1.
OS Rattus norvegicus (Rat).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
OX NCBI_TaxID=10116;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=87222423; PubMed=3034909;
RA Shimatsu A., Rotwein P.;
RT "Mosaic evolution of the insulin-like growth factors. Organization,
RT sequence, and expression of the rat insulin-like growth factor I
RT gene.";
RL J. Biol. Chem. 262:7894-7900(1987).
RN [2]
RP SEQUENCE FROM N.A.
RC TISSUE=Testis;
RX MEDLINE=88003970; PubMed=3652906;
RA Casella S.J., Smith E.P., van Wyk J.J., Joseph D.R., Hynes M.A.,
RA Hoyt E.C., Lund P.K.;
RT "Isolation of rat testis cDNAs encoding an insulin-like growth factor
RT I precursor.";
RL DNA 6:325-330(1987).
RN [3]
RP SEQUENCE FROM N.A.
RX MEDLINE=91103966; PubMed=1368571;
RA Kato H., Okoshi A., Miura Y., Noguchi T.;
RT "A new cDNA clone relating to larger molecular species of rat
RT insulin-like growth factor-I mRNA.";
RL Agric. Biol. Chem. 54:1599-1601(1990).
RN [4]
RP SEQUENCE FROM N.A.
RX MEDLINE=89127259; PubMed=3221878;
RA Roberts C.T., Lasky S.R., Lowe W.L., Seaman W.T., Leroith D.;
RT "Structure of the rat insulin-like growth factor II transcriptional

RT unit: heterogeneous transcripts are generated from two promoters by
 RT use of multiple polyadenylation sites and differential ribonucleic
 RT acid splicing.";
 RL Mol. Endocrinol. 2:1115-1126(1988).
 RN [5]
 RP SEQUENCE OF 46-153 FROM N.A.
 RX MEDLINE=87246437; PubMed=3595538;
 RA Murphy L.J., Bell G.I., Duckworth M.L., Friesen H.G.;
 RT "Identification, characterization, and regulation of a rat
 RT complementary deoxyribonucleic acid which encodes insulin-like growth
 RT factor-I.";
 RL Endocrinology 121:684-691(1987).
 RN [6]
 RP SEQUENCE OF 49-118.
 RX MEDLINE=89174609; PubMed=2538424;
 RA Tamura K., Kobayashi M., Ishii Y., Tamura T., Hashimoto K.,
 RA Nakamura S., Niwa M., Zapf J.;
 RT "Primary structure of rat insulin-like growth factor-I and its
 RT biological activities.";
 RL J. Biol. Chem. 264:5616-5621(1989).
 CC -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
 CC ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
 CC MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
 CC -!- SUBCELLULAR LOCATION: Secreted.
 CC -!- ALTERNATIVE PRODUCTS:
 CC Event=Alternative splicing; Named isoforms=2;
 CC Name=IGF-IA;
 CC IsoId=P08025-1; Sequence=Displayed;
 CC Name=IGF-IB;
 CC IsoId=P08024-1; Sequence=External;
 CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
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 CC -----
 DR EMBL; X06043; CAA29436.1; -.
 DR EMBL; M15651; AAA41215.1; -.
 DR EMBL; M15647; AAA41215.1; JOINED.
 DR EMBL; M15648; AAA41215.1; JOINED.
 DR EMBL; M15649; AAA41215.1; JOINED.
 DR EMBL; M17714; AAA41227.1; -.
 DR EMBL; M17335; AAA41386.1; ALT_INIT.
 DR EMBL; M15481; AAA41387.1; ALT_INIT.
 DR PIR; B27804; B27804.
 DR HSSP; P01343; IGF1.
 DR InterPro; IPR004825; Ins/IGF/relax.
 DR Pfam; PF00049; Insulin; 1.
 DR SMART; SM00078; IIGF; 1.
 DR PROSITE; PS00262; INSULIN; 1.
 KW Insulin family; Growth factor; Plasma; Alternative splicing; Signal.
 FT SIGNAL 1 ?
 FT PROPEP ? 48

FT CHAIN 49 118 INSULIN-LIKE GROWTH FACTOR IA.
 FT DOMAIN 49 77 B.
 FT DOMAIN 78 89 C.
 FT DOMAIN 90 110 A.
 FT DOMAIN 111 118 D.
 FT PROPEP 119 153 E PEPTIDE.
 FT DISULFID 54 96 BY SIMILARITY.
 FT DISULFID 66 109 BY SIMILARITY.
 FT DISULFID 95 100 BY SIMILARITY.
 FT CONFLICT 110 112 APL -> VRC (IN REF. 4).
 SQ SEQUENCE 153 AA; 17079 MW; 966F3C0FA4EB3DE7 CRC64;

Query Match 75.3%; Score 450; DB 1; Length 153;
 Best Local Similarity 95.3%; Pred. No. 7.6e-41;
 Matches 82; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

Qy 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
 |||||
 Db 49 GPETLCGAELVDALQFVCGPRGFYFNKPTGYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 108
 Qy 61 CAPLKPAKSARSVRAQRHTDMPKTQK 86
 |||||
 Db 109 CAPLKPTKSARSIRAQRHTDMPKTQK 134

RESULT 13

IGFA_MOUSE

ID IGFA_MOUSE STANDARD; PRT; 127 AA.
 AC P05017;
 DT 13-AUG-1987 (Rel. 05, Created)
 DT 13-AUG-1987 (Rel. 05, Last sequence update)
 DT 28-FEB-2003 (Rel. 41, Last annotation update)
 DE Insulin-like growth factor IA precursor (IGF-IA) (Somatomedin).
 GN IGF1 OR IGF-1.
 OS Mus musculus (Mouse).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
 OX NCBI_TaxID=10090;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Liver;
 RX MEDLINE=87040760; PubMed=3774549;
 RA Bell G.I., Stempien M.M., Fong N.M., Rall L.B.;
 RT "Sequences of liver cDNAs encoding two different mouse insulin-like
 RT growth factor I precursors."
 RL Nucleic Acids Res. 14:7873-7882(1986).
 CC -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
 CC ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
 CC MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
 CC -!- SUBCELLULAR LOCATION: Secreted.
 CC -!- ALTERNATIVE PRODUCTS:
 CC Event=Alternative splicing; Named isoforms=2;
 CC Name=IGF-IA;
 CC IsoId=P05017-1; Sequence=Displayed;
 CC Name=IGF-IB;
 CC IsoId=P05018-1; Sequence=External;
 CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.

OC Coturnix.
 OX NCBI_TaxID=93934;
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=95187621; PubMed=7881819;
 RA Kida S., Iwaki M., Nakamura A., Miura Y., Takenaka A., Takahashi S.,
 RA Noguchi T.;
 RT "Insulin-like growth factor-I messenger RNA content in the oviduct of
 RT Japanese quail (*Coturnix coturnix japonica*): changes during growth
 RT and development or after estrogen administration.";
 RL Comp. Biochem. Physiol. 109C:191-204(1994).
 CC -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
 CC ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
 CC MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
 CC -!- SUBCELLULAR LOCATION: Secreted.
 CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
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 CC -----
 DR EMBL; S75247; -; NOT_ANNOTATED_CDS.
 DR HSSP; P01343; 1GF1.
 DR InterPro; IPR004825; Ins/IGF/relax.
 DR Pfam; PF00049; Insulin; 1.
 DR SMART; SM00078; IIGF; 1.
 DR PROSITE; PS00262; INSULIN; 1.
 KW Insulin family; Growth factor; Plasma.
 FT NON_TER 1 1
 FT PROPEP <1 19 POTENTIAL.
 FT CHAIN 20 89 INSULIN-LIKE GROWTH FACTOR I.
 FT DOMAIN 20 48 B.
 FT DOMAIN 49 60 C.
 FT DOMAIN 61 81 A.
 FT DOMAIN 82 89 D.
 FT PROPEP 90 124 E PEPTIDE.
 FT DISULFID 25 67 BY SIMILARITY.
 FT DISULFID 37 80 BY SIMILARITY.
 FT DISULFID 66 71 BY SIMILARITY.
 SQ SEQUENCE 124 AA; 13888 MW; 52254EB1BA52C3B6 CRC64;

Query Match 70.6%; Score 422; DB 1; Length 124;
 Best Local Similarity 89.5%; Pred. No. 5.6e-38;
 Matches 77; Conservative 3; Mismatches 6; Indels 0; Gaps 0;

Qy 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 60
 |||||:|||||
 Db 20 GPETLCGAELVDALQFVCGDRGFYFSKPTGYGSSRRLLHHKGIVDECCFQSCDLRRLEMY 79
 Qy 61 CAPLKPAKSARSVRAQRHTDMPKTQK 86
 |||:| |||||
 Db 80 CAPIKPPKSARSVRAQRHTDMPKAQK 105

RESULT 15

IGF1_CHICK

ID IGF1_CHICK STANDARD; PRT; 153 AA.
AC P18254;
DT 01-NOV-1990 (Rel. 16, Created)
DT 01-NOV-1990 (Rel. 16, Last sequence update)
DT 01-OCT-1996 (Rel. 34, Last annotation update)
DE Insulin-like growth factor I precursor (IGF-I) (Somatomedin).
GN IGF1.
OS Gallus gallus (Chicken).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
OC Gallus.
OX NCBI_TaxID=9031;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=90190648; PubMed=2628728;
RA Kajimoto Y., Rotwein P.;
RT "Structure and expression of a chicken insulin-like growth factor I
RT precursor.";
RL Mol. Endocrinol. 3:1907-1913(1989).
RN [2]
RP SEQUENCE OF 1-21 FROM N.A.
RX MEDLINE=91236750; PubMed=2033062;
RA Rotwein P., Kajimoto Y.;
RT "Structure of the chicken insulin-like growth factor I gene reveals
RT conserved promoter elements.";
RL J. Biol. Chem. 266:9724-9731(1991).
RN [3]
RP SEQUENCE OF 49-118.
RX MEDLINE=91106695; PubMed=2272467;
RA Ballard F.J., Johnson R.J., Owens P.C., Francis G.L., Upton F.M.,
RA McMurtry J.P., Wallace J.C.;
RT "Chicken insulin-like growth factor-I: amino acid sequence,
RT radioimmunoassay, and plasma levels between strains and during
RT growth.";
RL Gen. Comp. Endocrinol. 79:459-468(1990).
CC -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
CC ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
CC MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
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CC -----
DR EMBL; M32791; AAA48828.1; -.
DR EMBL; M74176; AAA48829.1; -.
DR PIR; A41399; A41399.
DR HSSP; P01343; IGF1.
DR InterPro; IPR004825; Ins/IGF/relax.

